THE

PALESTINE EXPLORATION FUND.

PREFACE.

THE most important events in the work of the last three months are the discoveries on the site of Gezer by M. Clermont-Ganneau, and that of the Altar of Ed by Lieutenant Conder. The former is only equalled in interest by M. Ganneau's previous discovery in Jerusalem of the stone of Herod's Temple. He has found, on a spot previously indicated by him as the site of Gezer, viz., Abu Shusheh, which lies five miles south-east of Ramleh and four east of Amwas (the presumed Emmaus), not only the name Tell el Gezer, still existing, with traces of the foundations of houses, but two inscriptions, both exactly alike, in Hebrew and Greek, the Hebrew words being translated "the boundary of Gezer." We have thus new data for many important points of dispute. There are, for instance, the boundaries of a Levitical city (Numbers xxxv. 4, 5); the direction of the square, which is now seen to have lain with its four angles at the four cardinal points; the exact length of "two thousand cubits," and therefore of one cubit. The measurements, however, are not yet completed. The inscriptions will be engraved when these, with the memoir promised by M. Ganneau, are sent home. The other discovery, that of the Altar of Ed, is hardly less interesting; and the survival through so many ages of the name is only another proof of the vitality of the old names in the Holy Land.

The *Quarterly Statement* contains besides these two papers, a report of the Annual Meeting, at which, among other speakers, the Rev. Dr. Porter, just returned from Palestine, gave an account of his recent journey; and the Rev. Dr. S. Manning, also a recent traveller, spoke on the necessity, for the right understanding of the Bible, of scientific exploration. We have also two valuable reports from M. Clermont-Ganneau, and a paper by Lieutenant Conder read at the British Association at Belfast.

The thanks of the Committee are specially due to the Cloth-workers' Company, to the Syrian Improvement Committee, to the British Association, to Mr. Henry Lee, to Mr. W. Vaux, and to "G. M. E.," for donations during the present year of £100 each to the Fund. Financially, the Fund is not prosperous, in spite of these generous donations. The Committee are deeply in debt. They asked the Annual Meeting for £2,500 before the end of the year. Since that time (June 23rd) about £640 have been received at the office. It is earnestly urged upon all subscribers who have not paid for the current year to do so without delay, and upon all Honorary Local Secretaries to circulate a knowledge of the Fund and its claims as widely as possible.

NOTES.

The following resolution was passed at the Meeting of the British Association at Belfast :—

That Major Wilson and Mr. Ravenstein be appointed a committee for the purpose of furthering the Palestine Explorations, and that the sum of £100 be placed at their disposal to be expended on behalf of the Topographical Survey, and especially in ascertaining the level of the Sea of Galilee and the fall of the River Jordan.

The Syria Improvement Committee have decided on terminating their trust. Out of the funds remaining in their hands they voted £100 for the Survey of Palestine.

M. Clermont-Ganneau's leave of absence expires on October 23rd. It is hoped that his services may be continued for another year.

It has been resolved that an application shall be made to the War Office for a second officer of Royal Engineers to join the Survey party under command of Lieutenant Conder in place of Mr. Tyrwhitt Drake.

The hill sketching and all the plans and special surveys made by Lieutenant Conder have been deposited for safety with the Union Bank, where they will remain until the completion of the Survey. It was judged expedient not to run the risk of losing any of these invaluable documents by fire or otherwise.

The Duke of Westminster, who very kindly lent Grosvenor House for a meeting in July, has joined the General Committee.

The total amount received from all sources since the last *Statement* was £650 7s. 7d. (June 26 to Sept. 30). The balance on the same date was £165 15s. 1d. The expenditure during the next three months will be about £1,000, and it will be necessary besides to pay at least £600 of our liabilities.

A letter has been sent to all the City companies and various societies, asking for assistance in the great work of the Survey. The fact is stated publicly, in the hope that subscribers will be able to help this appeal by their own influence. Perhaps, also, a general appeal will be made in November.

The following Special Meetings have been held during the summer :—

1. Grosvenor House, July 24th, 1874. The chair was taken by Mr. MacGregor, and the meeting was addressed by the Chairman, by Captain Warren, and Lieutenant Conder. The room was very kindly lent by the Duke of Westminster.

2. Admiral and Lady H. B. Hamilton, July 18, 1874. Captain Warren spoke on the work of the Fund.

3. Sept. 30, at the Palace, Chichester, when Mrs. Finn, through whose exertions all the summer meetings were arranged, gave an account from her own experience of recent and and early research in the Holy Land.

4. Drawing-room Meetings were also held at the houses of Madame de Bunsen, Mrs. Osborne, and Mrs. Ellis.

At these meetings the following ladies entered their names as members of the Ladies' Association :—

Lady H. B. Hamilton, Macartney House, Greenwich.
Miss Hamilton, ,, ,,
Miss Jones, 16, Park Row, Blackheath.
Miss E. Jones, ,, ,,
Miss Jackson, ,, ,,
Miss Pontifex, Crown Hill, Blackheath.
Mrs. Francis B. Wire, ,, ,,
Mrs. H. Lacon, 7, Hyde Park Street, W.
Miss Turbervill, 170, St. Paul's Road, Highbury.
Miss Kims, 24, Highbury New Park, N.

Mrs. Stanley, 9, Lancaster Gate, W.
Mrs. J. Gritton, Tinnevelly Lodge, St. Peter's Park, W.
Mrs. S. Hanson, 24, Greville Place, Kilburn.
Miss Hanson, The Vicarage, Christchurch, Hants.
Mrs. Ellis, 197, Maida Vale.
Mrs. Despard, Parsonage, Kilburn.
Mrs. Sydall, 60, Ladbroke Grove, W.
Mrs. Holdsworth, per H. Gough, Esq., Waltham Abbey, Essex.
Mrs. Osborne, 5, Ulster Terrace, Regent's Park.
Mrs. Halley, 16, Hanley Street, W.
Mrs. J. C. Chappell, 14, George Street, Hanover Square, W.
Mrs. Hunter, 32, Charlotte Street, Edinburgh.
Miss Colls, Florence Villa, King Henry's Road.
Miss Rogers, 150, Alexandra Road, St. John's Wood.
Mrs. C. H. Osborne, 120, Cornwall Road, S.W.
Mrs. G. H. Osborne, 5, Ulster Terrace, Regent's Park, N.W.

ANNUAL GENERAL MEETING OF THE PALESTINE EXPLORATION FUND.

HELD AT THE ROYAL INSTITUTION, 23RD JUNE, 1874.

THE VERY REVEREND THE DEAN OF WESTMINSTER IN THE CHAIR.

The CHAIRMAN: I shall call upon Mr. Grove to read the Report.

GEORGE GROVE, Esq., Hon. Sec., read the Report as follows:—

"The Committee are happy in being able to report that the work of the year has been marked by an unparalleled progress.

"Two branches of work have been simultaneously carried on. The survey of Western Palestine, under Lieut. Conder and Mr. Tyrwhitt Drake, and the Archæological researches of M. Clermont-Ganneau. Lieut. Conder will himself describe to you the method of the survey.

"At the last annual meeting of the Fund, the Committee were able to report the completion of 1,600 square miles in the eighteen months which had elapsed since the commencement of the survey.

"During the past twelve months the rate of progress has greatly increased.

"The number of square miles now mapped and surveyed is over 3,000, or about one-half of Western Palestine.

"Map-making is only part of the work of the expedition; careful drawings, with plans, measurements, and sketches of every ruin and important site, are made; the ancient roads, aqueducts, and lines of communication are traced; observations on the geology and natural history of the country are recorded, and specimens collected; and the traditions of the people are sought for and carefully noted down.

"Foremost among the special surveys may be mentioned those of Athlit, Dor, Beisan, Cæsarea, and Antipatris. There are also plans of two ruined cities not yet fully identified, discovered by Lieut. Conder; a group of early Christian convents, and some fine tombs which throw much light upon the history of the architecture of various periods in Palestine. The tomb and summer palace of Herod at Jebel Furaydis have been examined. A survey and plan have been made of Modin, where are the tombs of the Maccabees. The system of caves, commonly known as the cave of Adullam, has been thoroughly explored. The Jordan Valley has been surveyed, where the site of Gilgal has been fixed with great probability.

"With regard to the identification of other sites, that of Œnon (proposed by Dr. Robinson) has been verified. The places mentioned (Judges vi., vii., and viii.) in Gideon's pursuit after the Midianites can now be followed on the map; and Lieut. Conder believes that he had identified the rock Oreb and winepress of Zeeb (Judges vii. 25).

"It is probable, also, that the voluminous geological notes made in the

valley of the Jordan will help to settle the difficult question of the date, and method of formation, of this valley, and the Dead Sea.

"It is impossible to publish in the *Quarterly Statements* all the sketches and plans now in the possession of the Committee and accumulating monthly. These will appear in the work which the Committee *hope* to be able to publish in connection with the map, when the survey is completed.

"The non-commissioned officers, Sergeant Black, Corporal Armstrong, and Lance-Corporal Brophy, have worked throughout to the entire satisfaction of Lieut. Conder, and the Committee desire to express their high sense of the value of the service which they have rendered to the Fund.

"With regard to the survey, it should be added that the work has been conducted in the face of the most severe winter ever known in Palestine, and in spite of fever, which attacked both Lieut. Conder and Mr. Tyrwhitt Drake.

"Turning to the work of M. Clermont-Ganneau, the Committee point to his letters published in the *Quarterly Statements*.

"He has discovered the ancient cemetery of Jaffa, found apparent traces of the primitive houses of Gezer, examined the site, suggested by himself, of the stone of Bohan, and made researches attended with results of great interest at Gumran (the Gomorrah of De Saulcy), Jericho, the Wady Kelt, Shafât, Modin, and many other places. He has brought to light numerous inscriptions, discovered and examined many ancient tombs, and collected a great number of local traditions. He is now engaged in exploring a series of rock-cut chambers north of the Via Dolorosa, in Jerusalem, which seem to have an important bearing on the topography of the city.

"The reports of M. Ganneau have been accompanied by a series of most carefully executed drawings by M. le Comte. The Committee take this opportunity of drawing attention to the energetic and able manner in which M. Ganneau is carying out their instructions.

"The income of the Fund for the year 1873 amounted to £3,630 17s. 3d., the largest income it has ever obtained since the year 1869. The amount received this year up to the present date is £1,758 17s. 9d., being £308 more than was received up to the same date of last year.

"On the other hand, the expenses are heavier, both in Palestine, owing to the two expeditions, and at home, owing to the enlargement of the Reports and the increased expenses in printing. Even to pay their way, without paying existing debts, the Committee will have to ask for at least £2,500 before the end of the year.

"Intelligence has been received from the secretary of the American Exploration Association that the sum of 60,000 dols., or £12,000, has been raised by appeal, and that a second expedition will be sent out without delay to the east of the Jordan.

"This proof of enthusiasm in America will be heartily welcomed in England, and ought to be a stimulus for the raising of a larger sum for our own Society.

"An Association has been formed in Germany for the scientific exploration of Phœnicia. The Committee will endeavour to place themselves in communication with this society with a view to the interchange of papers.

"The Committee have, lastly, the pleasing duty of expressing their sincere thanks: 1st, to Mr. Consul Moore, of Jerusalem, for the friendly help he has always rendered to Lieut. Conder and M. Ganneau; 2ndly, to Dr. Chaplin, who has continued for Lieut. Conder's party the same gratuitous medical assistance which he so kindly gave to Major Wilson's and Capt. Warren's expeditions, and whose valuable services in many other ways have always been placed so readily in the hands of the Fund; and 3rdly, to Mr. Schick, for the notes of his researches at Jerusalem, which he forwards from time to time to Major Wilson for the Fund.

"They have also to thank Lord Shaftesbury for the sympathy which prompted him to write to the *Times* last autumn a strong appeal on behalf of the Fund; the Rev. Dr. Aberigh Mackay, of Simla, who has raised a subscription in India; and all local secretaries, for the trouble they take in maintaining interest in the work, and raising money for its continuance."

Lieut. CONDER then read the following Report of the proceedings of the Society in Palestine:—

It is now two years since I was honoured by having the command of the Survey Party in Palestine entrusted to my care, and I am glad to be able to report to-day that the work has been prosecuted during that time without any material check, and with many interesting and important results, with which you are already familiar.

Before leaving Palestine I had completed, roughly speaking, half the map. On my arrival in the country I found that the time required was estimated at eight or ten years, but now we are able to promise, that unless the health of the party fails, we shall have all Palestine, from Dan to Beersheba, surveyed and thoroughly examined within some eighteen months from this time,—in four years, instead of eight as originally contemplated. Hitherto the men have hardly had a day's illness; and I think we may hope that with due care and the invaluable advice of Dr. Chaplin, the open-air life may continue to enable them to stand the effects of the climate and of the work.

There is nothing which is so striking on returning to England as the difficulty of conveying a truthful and vivid impression of Palestine, and the life we lead there. It must be borne in mind that every inch of paper on the sheets brought home represents a square mile of difficult country ridden over more than once, and every small plan a large ruin encumbered with fallen stones, or overrun with thistles through which the chain has to be dragged.

The method of proceeding has now become stereotyped; it is a constant repetition every fortnight or ten days of the same round of duties, only broken by the winter rainy season. In a month we now add nearly 300 square miles to the map, being five times the rate first

obtained; and were it not impossible for even the endurance of my non-commissioned officers to stand the strain, the actual amount of time required to complete the map would not be more than some twelve months.

The expedition as at present constituted consists of five Europeans and ten Syrians, including servants, groom, cook, and muleteers, with an irregular horseman supplied by the local government. For our transport we require eight horses and seven mules, and on the days of moving camp five or six camels in addition. Thus, on the occasion of our first march along the Jordan valley high road our caravan extended over a quarter of a mile: in front the horsemen, followed by the heavily-loaded mules with bells and gaily ornamented harness; behind these the camels, and in rear the Bedouin guards on their horses and the Sheikh on his dromedary, whilst a string of Arabs on foot with long guns, and of servants mounted on donkeys and mules, mingled with the main line of the march.

Arrived at our destination, the first thing necessary is to choose a camping ground in a convenient position, sheltered, near to water, and on as even ground as possible. If at a village it is next necessary to send a message to the leading man of the place. For this purpose our head servant, in the full glory of Syrian costume, well armed, and mounted on a good horse, is despatched with the Imperial firmán to explain the object of our arrival, and demand all necessary assistance. The presence of a government soldier, and the fact that our arrival has probably been already announced, as it is known at one camp where our next is to be, makes this generally a mere formality. The elders of the village immediately come down, and we are offered coffee and other refreshments. After this, with the exception of extortionate demands, which dwindle to fair prices in the course of a few days, we have as a rule but little trouble with the inhabitants of this village or of those in the immediate neighbourhood.

A consultation with my sergeant and orders to the head servant follow, and thus next morning we are all ready to begin the work.

As night comes over the camp the active duties of our dogs commence. The English fox-terriers, of a breed which we preserve very carefully, run round the tents, and are constantly on the alert for jackals, hyænas, or prowling Arabs. Sometimes we are waked by the noise of a combat, when they have seized some large prey, and require our assistance. More than once they have saved our horses by discovering the approach of thieves. Thus, at Shunem, Sergeant Black and I were waked by a dog's bark, and discovered that three Bedouins had crept through the long grass within a few feet of the picket of valuable horses. We rose and loaded our guns, but although some twenty Arabs descended on the neighbouring village, and a skirmish with the villagers ensued, we were not attacked. A dropping fire was kept up for some time on both sides, and the war cry of the Arabs answered the shouts of the fellahin; but having stolen a horse and a cow the robbers retired for the night.

By about half-past seven in the morning the horses are saddled, the breakfast ready, and two mules packed. On the back of each is a square wooden canvas-covered box, containing the theodolite, placed well forwards to allow a native to sit; behind it on each side are saddle-bags with provisions, an umbrella, the legs of the theodolite, a bucket of whitewash, a hatchet, &c. Each party, accompanied by a guide from the village on another mule, now moves off to a high mountain top, already well known, and chosen from a former camp. For two or three hours we go steadily on our way, now by a path, now across country up the narrow valleys and over stony ridges, keeping our point straight before us. There is generally very little said unless a consultation becomes necessary; and our acquaintance with the country is now so good, that we rarely meet any obstacle sufficient to turn us from our course. Sometimes, indeed, we may arrive at the brink of a precipitous ravine like that of Michmash, the existence of which cannot be guessed from a distance; but even this hardly alters our line of march, and we have never yet failed by some means or other to drag our sure-footed beasts down the rocky sides and up the opposite slopes. These great valleys do, however, materially delay our progress; and on one occasion in Judæa it took three hours to advance a distance of only three miles.

Another difficulty which has especially delayed us during this spring is the entire want of drainage. In parts where there is no natural outlet for the water, the cornland is often an impassable swamp, and immediately on leaving the rock the horses will sink up to the girths, and are with difficulty recovered. Experience, however, has taught us to avoid these dangerous places, and to find a path across them. Great care is necessary also in riding over the bare rock, which is often so slippery from the rubbing of the camels' feet and the effect of the sun that no horse can keep its feet, and the danger of a heavy fall is not to be laughed at.

On arriving at the chosen point a communication with the other party has to be established. This is generally effected, either by the smoke of a fire or by the flash of the sun's rays in a small looking-glass. Seen from a distance, this resembles a long tongue of electric flame, and is, on a bright day, visible almost as far as the eye can see. The theodolite observations occupy from two to four hours, and are perhaps the most trying part of our work, necessitating a continual change of focus for the eye from the long distance seen through the telescope to the minute magnified divisions of the graduated circle. Thus, on returning to camp the day's work has extended over eight or ten hours.

The work of filling in the details of the map, which commences on the third or fourth day of the camp, requires even greater physical exertion. But this can hardly be explained in a brief address such as the present. I feel sure, however, that the accuracy of this part of the work is greater than could be expected, whilst the number of names averages six times that on the best existing map.

The difficulties of country already alluded to are also extremely important. Some of the valleys are absolutely impassable, and the fatigue of crossing a narrow gorge, perhaps 1,000 feet deep, is very considerable. Ruins are often hidden in corners or half way down precipitous descents, and take hours to examine. Sometimes when visited they prove modern or insignificant, but they are noted nevertheless, and our lists give details of all that is to be seen in every spot we have examined, and these are now to be counted by thousands.

The great stoniness of the soil is another cause of delay and fatigue In England it can hardly be realised. The north road from Jerusalem to Nablus resembles nothing so much as a dry bed of a stream, and the by-ways are, as may be imagined, worse than the main road.

The danger of assault by the natives has also to be considered, although it is now less than at first. In every case such an assault has met with swift and severe punishment, and the fame of these acts of justice has spread, whilst, at the same time, the peasantry regard us with less suspicion and fear than formerly. It is to a firm and consistent line of conduct on the part of all members of the expedition that the freedom from annoyance from this source has arisen. The safety of a European when alone in Syria depends on his being well armed, and on a just confidence in his own superiority to a cowardly and treacherous race of natives.

In conclusion, I may call attention to one of those rewards for systematic labour which we occasionally obtain. I take as an instance the discovery of Khirbet Deir Serur, where we found a whole town previously entirely unknown, never before visited or marked on a map, though only ten miles from Samaria.

In the course of an ordinary day's work, Corporal Armstrong arrived at this important ruin, and after a brief inspection, saw that it was too extensive for immediate survey, and would require to be visited by me. At the earliest opportunity we therefore re-examined it together, and spent the day in surveying it, measuring its principal buildings, and noting all details of importance.

The ruin is situated on a hill-top, and presents a field of fallen masonry, with blocks of white limestone, in some cases ten feet long. On the east are the foundations of a large building with walls eight feet thick; and two curious blocks like pilasters, but unornamented, stand at the corners unsupported. The building in question is evidently for some public purpose, though it is not easy to say what. It is not a church, nor does it entirely resemble in plan a temple or synagogue. Its floor is tesselated pavement. Fragments of its ornamentation are scattered about, and a fine stylobate runs at the base of the wall. It seems to have been divided into three walks with pillars, and had steps to its great gate on the west. The rubbish, however, has filled the interior.

Passing along what seems to have been a main street, we find another large building at the north-west corner of the town. The main door-

way has a fine round arch, and the rubbish here must be over ten feet in depth. The pilasters of a side door are of classic moulding, and the great wall has stones beautifully finished, all with drafted margin.

The general impression with regard to this important ruin appears to be that it dates about the first or second century. It may turn out to be Herodian, and its excavation may lead to important finds of inscriptions or other treasures.

Such, plainly stated, is a single illustration of many similar explorations, and a review of our method of work leading to the valuable discoveries which we are making in parts of Palestine where a European has not been seen within the memory of man.

I have endeavoured very briefly to give not the results of our work, which you have already in the *Quarterly Statements*, but our methods, our life, and some of our difficulties. I have only to add what you are quite prepared to hear, that every sheet of our Survey brings out more forcibly and more clearly the absolute accuracy of the very slightest topographical indications and incidental notices contained in the historical books of the Old and New Testaments.

The CHAIRMAN: I first of all must make an apology for my being in the chair in the place of the Archbishop of York, who, I believe, has filled this chair every time since he undertook to be the President of the Palestine Exploration Fund, and I have always considered it doubly meritorious, if I may use such an expression, not only on account of his numerous important avocations, but because I consider in all geographical matters that it is a virtue not to be expected that any one should take a profound interest in a country he has not himself visited, that being a virtue to which I could not lay claim if I were called upon to take the chair (hear, hear); and therefore I consider that the Archbishop of York does deserve much gratitude from the Fund. (Cheers.) On this occasion we must all deeply deplore the cause of his absence to-day, which is wholly occasioned by his having had to cross the Channel to Paris, only in time to reach the deathbed of a beloved brother. With regard to the occasion itself, the Report and the address you have just heard leaves very little to add beyond what you all yourselves understand from it. No doubt the great addition made to our knowledge by this very careful and extended map is the most important step the Fund has made in advance, because this is a thing which is unquestionably superior to anything of the kind which has been done by anybody; and it never can be undone, and it has been undertaken at a period in the history of Palestine which is most important, because one feels that in these half-civilised countries the progress of civilisation will tend to tear away and uproot many things which, unless they are chronicled now, will never be chronicled at all; and these records can therefore now be made with the greatest effect. You have also heard from the address of Lieut. Conder exactly the process by which this map is made. To any one who has been in Palestine his address is most interesting, as giving you a picture of the ups and downs and everlasting undulations of these rocky hills,

and of the precipitous valleys which so unexpectedly yawn before you. No doubt the process is exceedingly difficult, and it must be in many respects exceedingly wearisome, and often, as he has described it, not free from danger. (Hear, hear.) But I cannot help hoping for him and those engaged with him this reward. There is no other country in the world in which they could be employed, not only with such results, but with such constant and immediate results. The geography and the monuments of Palestine are the most interesting of any in the world, and the most thickly scattered—I think not even with the exception of Greece. Greece is the only country which can come into competition with Palestine in regard to the narrow space within which these crowded vestiges of antiquity are packed together; and therefore at every turn these explorers may expect to find something which, if not absolutely new, is exceedingly important for the purpose of making a complete survey. (Hear, hear.) I cannot help comparing Lieut. Conder's account of the survey before us with another work in which I happen to be engaged—especially when speaking of the length of time which it requires—and that is the revision of the authorised version of the Holy Scriptures. We count week by week, and month by month, the ground we get over; and so it is with this exploration of Palestine; and, as I trust, within the next ten years we shall in both these works have arrived at something like the same result. As regards the Map of Palestine, we shall have given all the results that can be arrived at in this our time in the most complete form; and as regards the revision of the text of our translation of the Holy Scriptures, we shall have brought to bear upon it all the light which modern scholarship can bring to bear upon the letter of the Holy Scriptures. (Hear, hear.) We shall thus have been equally successful with the land and the letter of the Bible. It is true that does not supply the spirit; but it is something to have the framework, and it is something to have the letter, and I trust we shall have that fully within the next ten years. (Cheers.) The first resolution will be proposed by Dr. Manning.

The Rev. Dr. S. Manning: The resolution I have to propose is to the following effect:—"That this meeting cordially approves of the action of the Committee, and of the efforts made by the exploring officers to carry out their instructions." This resolution implies two things: first, that the objects and aims of the Palestine Exploration Fund are deserving of our approval and support; and secondly, that those objects are pursued by the Committee and officers with laudable energy, discretion, and success. With regard to the first point there is little to be said here, especially in your presence, Mr. Dean, who by precept and example have shown us the value of topographical knowledge in the exposition of God's Holy Word. You have told us again and again in your writings how truth is to be illustrated by reference to the great facts of physical geography, and your writings have proved its importance in the elucidation of those documents upon which our most holy faith is established. (Cheers.) Though there will be no gainsayers to this proposition, a few

words may be permitted to me. We set ourselves to the exploration of the soil of Palestine with a view of confirming and illustrating the Holy Scriptures. Before we set ourselves to that work we must have a firm faith in the historical veracity and accuracy of those documents before submitting them to this crucial test. No system of falsehood, no system of semi-falsehood, can survive that test, because its inaccuracy must be exposed. If you could imagine any one testing the mythologies of India, Greece, and Rome by reference to the topography of their sites, their absurdity would be exposed to view—the bubble would burst at the instant of its contact with fact. If we come lower down, to the heroic period, and take the demigods of classical antiquity, and apply the same test, the myth would be obvious; it would not fit into the actual facts of geographical requirements. But we are perfectly secure of the Scriptures. The Scriptures of the Old and New Testament will be found exactly to adapt themselves to the facts and requirements of the case. We have no fear whatever of exposing them to this crucial test; and the result has been to justify our confidence, to clear up that which is obscure, and to confirm what is doubtful; and if our faith needed a firmer basis on which to rest, we should find it in these investigations. (Cheers.) I may perhaps be permitted to give one or two passing illustrations, not to add to your knowledge, but to show the advantages of this Society. We read that when the great leader and lawgiver of the Jewish nation was approaching the end of his honoured career, he ascended the mountain of Nebo, and the historian says that the whole country lay stretched out before him from the extreme north to the extreme south of the promised land. The infidel of former ages said that this was a physical impossibility, and incredible; others, affirming that we have here a slender shred of fact around which myths had gathered, explained the narrative as merely an exaggeration of later ages; and our forefathers in defending the faith had to affirm the existence of a miracle. But the officers of this Fund, Canon Tristram and others, have found that it was neither impossible, nor improbable, nor even miraculous; and those who have climbed where Moses stood have found that the writer of Deuteronomy has supplied a guide-book to the map which lay stretched at their feet. (Cheers.) Again, we read that on the opposing heights of Ebal and Gerizim the law was recited—its blessings and its curses—from the opposing hills. This seems very improbable, very difficult to understand, very hard to believe, insomuch that some writers have been eager to find another Ebal and another Gerizim where the event might have happened. We have but to visit the spot and all difficulty disappears. Here are two opposing amphitheatres, and you may stand in one or the other of them and try the experiment as I tried it last year myself, under circumstances the most unfavourable. Whether from the conformation of the spot, or the elasticity of the air in Palestine, despite all the difficulties of the case, not only could we in the valley hear the verses of blessing and cursing, but the readers on the opposite hills could catch the words with sufficient dis-

tinctness to take up the verses at the very point where the others left off. (Cheers.) The period in which we could most expect myth and legend to exist, if it exist at all, would be that of the great founders of the nation. Let us bring this to the same test. For instance, Abram and Lot are at Bethel about to divide the land between them, and we are told that from the point at which they stood they saw the rich and fertile plain of Jordan outstretched before them; beautiful exceedingly, as Eden, the garden of the Lord. When we look at the site of Bethel on the map, it is very difficult to understand that. We have but to visit the spot, however, and at once we have on the one side the barren rocks and wind-swept heights of southern Palestine, whilst the well-watered plain of Jordan in all its fertility and beauty is visible to the naked eye. (Cheers.) Take another instance in the life of the great patriarch. The announcement of the destruction of Sodom was made to him overnight, and he climbed the hill, and we are told he saw the smoke ascending. When we look at the map we find that long ranges of hills intervene between the two places, and it seems difficult to understand how this should be; but from the hill over Mamre, through a notch in the intervening chain, the whole of that district of the valley of the Jordan lies clear and plain, and the hot and quivering air is seen rising up distinctly from that very spot where Abram stood. (Cheers.) Glance at one of the poetical passages of the Bible, where the march of the Assyrians on Jerusalem is described. It is but an itinerary of the different villages from Anathoth up to Nob, just under the walls of Jerusalem. Step by step, by the officers of this Fund and other travellers, village after village has been identified, so that the narrative is proved to be a minute itinerary of that march, and the present names are in almost every case identical with those given us by the prophet. There is such a minute accord between the Land and the Book that they completely illustrate one another. Just as the pieces of a dissected map fit one to another, so do they coincide with the minutest possible accuracy. (Cheers.) We owe it to the labours of Captain Warren, Major Wilson, and Lieutenant Conder, that they have brought before us these elucidations and confirmations of the documents which form the basis of our faith and hope in Christ. (Loud cheers.) Admitting that the results have been of such value, yet, when we read that the resources of the Fund are so unexpectedly and sadly small, we cannot but feel that there is an idea abroad that the Fund is not doing the work we might expect it to do. Even those who are most earnestly desirous of a full exploration of Palestine stand aloof, look coldly, and speak doubtfully, when the question of supporting and contributing to this Fund arises. I would like to take the lowest statement I have ever heard, or that can be made, of the work of the Fund. I said to a gentleman in Jerusalem, who is earnestly devoted to this work, who is a warm and liberal supporter of it, and who has laid it under a heavy debt of gratitude by the services he has given it, "Will you tell me what is the net result of the explorations in Jerusalem? what is the sum

total of the amount arrived at?" This was last year. He said, "We began, believing we knew everything about Jerusalem, and that we only needed to fill in a few minute points of detail. We have now got so far that we know absolutely nothing. People were accustomed to talk about our church as the church on Mount Zion. I do not know where Mount Zion was." This must be taken with some limitation, because my friend is cautious and disposed to minimise results and magnify failures. That was his estimate. It came short of the truth. But even admitting its accuracy, I am disposed to say, Mr. Dean, that that is a great result to have obtained—to have detected errors—to have dispelled superstitious delusions, which have grown up age after age from the traditions and ignorances of the innumerable tribes and races who have held that hallowed spot in Jerusalem. We have not only to dig away vast mountains of *débris*, but to scatter vast clouds of prejudices. We must exorcise and cast out the idols of the cave before we can arrive at accurate knowledge; and it is only when error has been scattered that we can see facts in their true light. (Cheers.) Even if no more had been done than to disabuse our minds of false conceptions, and bring ourselves face to face with naked facts, this Society has done great and noble work. (Cheers.) But this was, I think, an under-statement of the work. It would not become me, who may be superficially acquainted with the operations of this Exploration Fund, to enter at great length to you, who know them better than I do, upon the actual results attained; but some of them have greatly impressed me. There is first that admirable contour plan in plaster of the rocky site of Jerusalem, giving us the actual surface and contour of the rock, as disclosed by exploration and borings. We have been dinned and pestered by endless disputations and discussions as to Acra, and the Tyropœon valley, and Zion, and Moriah, and other sites of Jerusalem, were bewildered with conflicting statements, and found that we were all groping in the dark. Now, though I do not mean to say that the sites of the Temple and the Holy Sepulchre have yet been decided, we have a sure basis of fact on which to rest, and with the contour plan before us, the time cannot be far distant when the topography of Jerusalem will be ascertained with certainty, finally and for ever. (Loud cheers.) And referring again to this survey of Palestine, in which there are from six to eight times as many names as are to be found in the best of all preceding maps, I think that is a matter for congratulation. (Cheers.) If the Fund had devoted itself to some sensational work—if some extraordinary discovery had brought out some exciting fact before the world—I believe its funds would have been in a much better position, because more people would have come to subscribe; but that would have been of incomparably less value than the work which we have now done. You will soon have the whole soil mapped out as the basis and groundwork of our future studies, and that is a work the importance of which it is impossible to exaggerate. And I would mention one point in connection with this, and that is the importance of putting down on paper the

names of the existing villages, which is of more value than it appears to be at the first glance. In Palestine nothing is more permanent than the names of places. Notwithstanding the influence of foreign invasion pouring over the country, the peasantry have retained the old scriptural names. Thus we find that Emmaus, whether the scriptural Emmaus or not, was known for centuries as Nicopolis, but it has now reverted to its ancient name as Amwâs. Or take Bethshan, so memorable in connection with the history of Saul. After being called Scythopolis for centuries, it is now called Beisan, which is almost identical with the Bethshan of the Old Testament. And it is by no means impossible, even with regard to Jerusalem itself, that the same thing may be true. Its modern name of El Kuds may be but a revival of the name Cadytis by which it was known to Herodotus. This map is an invaluable result of the work of this Society; and we must, moreover, contrast the work done by the officers of the Fund, not with what has to be done, but with the means at their disposal. (Cheers.) If they had had exhaustless resources their work would have been quite equivalent to those resources. Remember the skill, energy, and versatility of resource which your officers have displayed, and the dull, stolid obstinacy of the Turkish Government. I consider they have displayed a courage and a fertility of resource which, on the battle-field, would have captured a city or won a campaign. (Cheers.) Imagine them sinking a shaft, and running a tunnel at an enormous depth, and creeping up holes from which a fox terrier might be excused for turning back in despair. I say that Captain Warren, Major Wilson, Lieutenant Conder, and Sergeant Birtles are worthy of the greatest admiration and all honour for the marvellous courage they have displayed in braving danger and surmounting difficulties. (Cheers.) But although so much has been done, it is as nothing to what remains to be done. There are Hebron, Machpelah, Bethel, the summit of Gerizim, with all its mysteries, and innumerable other sites as yet waiting to be explored. All this has to be done, but it cannot be done with the means at the disposal of this Society; and, as the Dean said, what has to be done must be done quickly. The result of my researches in Jerusalem is that the progress of the destruction of ancient monuments was never going on so rapidly as now. Wherever we turn we find bands of tourists with bags and hammers, hammering at the pillars of the temple, and they would carry off a chip from the altar of burnt-offering if it could be found. (Cheers.) A few years ago a line of wall was discovered—the famed wall of Agrippa; and we all know the great importance of the question where that wall ran. Those remains have disappeared—they have been carried away to build a new Russian convent and hospital, which is rising outside the Jaffa gate. Some time ago two monoliths were discovered outside the Jaffa gate, like those at Baalbec, hewn out of the rock. In consequence of the difficulty of removal they were left *in situ*, still attached to the native rock. Their measurements coincided with the description of Josephus. But one of those columns has disappeared.

It has been hewn and broken into pieces to build some cottages, near the Jews' almshouses which were built by Sir Moses Montefiore; the other remains *in situ*. A whole crop of legends are growing up around it, and it is being invested with a legendary and mythic halo, and it is safe. But this work of destruction is going on rapidly, and what is to be done must be done quickly—now or not at all. He who gives should give at once: he who gives quickly gives doubly. (Cheers.) With great confidence and earnestness I commend this resolution to your adoption. (Great applause.)

[The DEAN of WESTMINSTER having left the meeting, the chair was taken by the treasurer of the Fund, Mr. WALTER MORRISON.]

The CHAIRMAN: The Committee had such recent information of the cause of the Archbishop of York's absence from England that they had not very much time to get another chairman. We, however, asked the Dean of Westminster, who at once consented, but who has now gone to attend another meeting in the City, and I must ask you, therefore, to accept a less efficient substitute for him. I will call upon Mr. George Grove to second the resolution.

Mr. GEORGE GROVE: Ladies and Gentlemen,—It is very difficult for an unpractised speaker to follow an eloquent orator like Dr. Manning, but there are one or two things which struck me in Lieutenant Conder's Report, and I cannot help mentioning them to you as they struck me, because it appears to me that they form a strong testimony to the admirable manner in which this survey is being carried out, and the operations of the Committee and the efforts of the exploring officers are being executed. You will remember what Lieutenant Conder said about a new and large town being found, the existence of which was actually unknown and unsuspected before. It is perfectly impossible, it seems to me, that anything can be a greater testimony than that to what the exploration has done. There may be, and doubtless are, a hundred such cases in that little country; but that our exploring officers should suddenly come upon a large town, the existence of which was unknown, and the name of which has never come in any map before, is a proof that the efforts which they are engaged upon are quite worthy of being prosecuted. (Cheers.) Then I was much amused and struck with one thing. He said that they had overcome obstacles which baffled the great King of Assyria himself, when they came to the very ravine where Sennacherib laid up his baggage. Lieutenant Conder said "Never mind," and they went on, and have not been stopped by the ravine of Michmash, which stopped Sennacherib. That is the way he carries out his explorations. (Cheers.) There is another thing which has been mentioned by others, but which I think has not been sufficiently insisted upon. I myself have been editing, with the able and indefatigable help of Mr. Saunders, for Mr. Murray, a map of Palestine and the Holy Land. That map contains every name that we could scrape together with authority. Now we have cut out to-day a square of that map, equivalent to a square of Lieutenant Conder's map, and we find that while

my map contains 160 names, his contains more than 1,600 in the same space. (Cheers.) I do not mention that as casting any blame on to me or the map-maker; but there the map is, and this space of ground contains in Lieutenant Conder's map between eight and ten times the number of names which mine contained with all the information we could obtain before. (Cheers.) I think these are good indications of the way in which the survey is being carried out. What we proposed to ourselves when we started the Palestine Fund, was that we should get a map containing everything there was in Palestine, so that it should be the most accurate record of a country that was ever made, and that the Biblical places should be traced on the map by the modern names which, in nine cases out of ten, have been in existence from the remotest times to the present. I cannot describe to you the feeling with which I saw those sheets when they arrived the other day. I felt that one great object of my life, and that which I did so much for when I was better able, would be accomplished—and a man may take a pride in the accomplishment of the great object of his life. (Cheers.) We shall have at last the great thing which Dr. Pusey said was wanted,—an Ordnance Map of Palestine—that is a common term which every one understands. We shall have a map representing everything which appears above the soil, —every name, and every particular we can collect about every site. (Cheers.)

It is well that I should recall to you the machinery by which this is being carried into effect. We have Lieutenant Conder and a small party of surveyors, and Captain Wilson, who is better able to judge than I am, can tell you they are working as no party of surveyors ever worked before. They work not only during ordinary hours, but day and night, like men devoted to the employment, and they have worked at it, not because it was the thing they had to do, but because they liked to do it, and wished to do it. (Loud cheers.) Then there is Mr. Tyrwhitt Drake, who, though an amateur, is a devoted explorer. I am sorry to say the news received to-day of Mr. Drake's health is anything but reassuring, and it is doubtful whether, if he recovers, he will do any more work for us; but that is a reason why we should be more grateful to him. In a very self-sacrificing manner he has been with the party, and has done work which no other man in his position could do. (Cheers.) Then, before I leave the survey, I may say that if we get the money the map of the country on this side of Jordan ought to be finished in 1875. (Hear, hear.) The other side of Jordan is to be done by the Americans, who have raised £12,000 for the purpose. That, I think, is most encouraging to us, and ought to act as a good example. (Hear, hear.) But leaving the survey, I will go to Jerusalem, where M. Ganneau is carrying on the work which was begun so well by Captain Warren. That is more difficult than the other. A survey is a survey; you know what you have to do, although there are difficulties in the nature of the soil and the scrub; but in Jerusalem you have got that extraordinary fact that the old city is covered up, and it is only by boring

down and tunneling that you can find anything; it is all work in the dark; but the two men we have got there, M. Ganneau and M. Lecomte, are fully able to do that. (Cheers.) I do not think a more able, intelligent, and devoted person than M. Ganneau exists; I do not think even Lieutenant Conder himself is more so. I have known him for long,—he has lived in Jerusalem many years,—he is an excellent Arabic scholar, both in the literary and the vulgar Arabic, and is thus extraordinarily well fitted for the work he is about; and if we can get money enough to keep him there, we shall be sure of solid and substantial results with regard to the city of Jerusalem, which, after all, survey or no survey, must be the point of the greatest interest in Palestine. (Cheers.)

And now with regard to the money that must be raised for this. I do not think that any of you now present, or any one that thinks of these things in England, can realise the fact that we are *in want of money*. If we want £5,000 a year, spread over England, Scotland, and Ireland, it really is nothing. It is only for every one of you to realise and take home with you the fact that we want it, and we want you to get it from your friends. (Cheers.) We are at present in great difficulties. It is all very well to find in the report that we have received this year £300 more than last year, but our expenses are greater,—we have more parties of people at work in Palestine, and we must have more money to do it than we had when we had fewer men; and therefore I do appeal to you with all the earnestness that I am master of. (Cheers.) I should like to find,—notwithstanding what Dr. Manning has said,—some great piece of sensation there, such as that when we discovered that the real original Jerusalem was 150 feet below the present one, because I know that the report of that discovery in the *Times* brought us in more money than anything else, although in fact our actual results are more important than our sensational ones. (Cheers.) I hope my remarks have not been very tedious to you, and that you will take to heart what I have said, and that each one of you will resolve to do what you can to get us funds to go on with this great work. (Loud cheers.)

The Rev. Dr. PORTER: I cannot refuse to make a few observations on this resolution. As some who are here know, I take a very deep interest in Palestine, in everything connected with its history and geography; and especially I look upon that land as the scene where the greatest events that ever the world saw transpired; consequently it must be dear to the heart of every student of the Bible. For this reason especially it is dear to my heart. But I have made this subject a matter of special study for near a quarter of a century; I have spent a good deal of time in Palestine, and I believe, not even excluding Lieut. Conder, I am the most recent importation from the Holy Land. (Hear, hear.) It was only on Saturday that I arrived, after a journey of more than three months in the East, and I have gone over during that time a large portion of the country described by the speakers who have preceded me; and I must join my testimony to theirs in this respect, that such a map as is being prepared is abso-

lutely necessary for the student of the Holy Scriptures. (Cheers.) I had the pleasure of meeting M. Ganneau in Jerusalem. I saw there something of the work in which he was engaged, and I believe it to be of the deepest interest and importance to every one who would know Jerusalem thoroughly. (Cheers.) M. Ganneau is prosecuting that work with a rare enthusiasm, and I believe with a rare success. I have never seen any man enter so heartily into any work, or carry it on with so much tact and so much success. (Cheers.) With regard to the Survey of Palestine, it is my conviction that no one can take too much interest in such a work. I am here unexpectedly. I did not know anything of this meeting until yesterday, and I have been speaking Arabic for the last three months almost exclusively; but I am most anxious to show from my recent journey the absolute necessity of such a map as that which is being prepared by Lieutenant Conder. It was my privilege to travel with the best map of Palestine that has yet been made—that which has been referred to by Mr. George Grove, and which, through the kindness of Mr. Murray, was placed in my hands. I used it, and I found that not one-tenth of the places I discovered during my route in Palestine were marked upon that map. I shall give you a short sketch of the route I took. It was unusual; and being unusual, I shall point it out for that reason, because it is better fitted to illustrate the point I wish to put before you. I went from Joppa to Jerusalem, from Jerusalem to Hebron, and then down here, through this section [*referring to the map*] of the wilderness to Tekoa, and afterwards up the Jordan valley as far as the place where the River Jabbok enters the Jordan. Crossing the Jordan there, I ascended the highest point of Mount Gilead, where I had the most magnificent views—views which the old patriarchs enjoyed. I went along the western brow of the mountains of Gilead, and down here to Mount Nebo. I stood two months ago upon the summit of that peak, and I enjoyed the very view which I believe Moses enjoyed, and saw that land which he saw, but which he was not permitted to enter; and when I put a question to a well-known Arab chief, and asked him the name of this peak, I was delighted when he said it was called Jebel *Neba*. I looked down into a valley immediately to my right, and saw a fountain there. I asked the name of that fountain, thinking it might be in the valley in which Moses was buried, and he told me it was called *Ain Mūsa*, "the Fountain of Moses." (Hear, hear.) All this shows how absolutely necessary it is for us to have a full knowledge of the geography and topography of Palestine in order to see the minute accuracy of Scripture history. (Cheers.) I travelled from Nebo across the plain of Moab for some distance, and then took a course through this vast plain to Rabbath Ammon; here I found my map very defective. There were ruins everywhere around me of large towns and villages, but none of them appeared on the map. Then I went up in the course followed by Moses when he led the Israelites against Og, King of Bashan—following in his route, and in the route pursued by

Esau when he went to meet his brother Jacob; and I found that route, so interesting to us historically, an absolute blank upon the very best map of Palestine that has hitherto been published. (Hear, hear.) Now, is it creditable to Christian England, with all its wealth and its love of Scripture truth, to allow that section of the Holy Land to remain for so many ages a blank upon our maps? (Cheers.) In proportion to the veneration we have for our Bible, so ought we to contribute for the exploration and survey of that land. (Cheers.) I encamped upon the banks of the Jabbok, where Jacob had his wonderful vision; and then I struck out a new route, to visit a place which was dear to me in former days—Bashan—to visit those old giant cities, the existence of which some people do not believe. After some difficulties, and negotiations with Arab chiefs, we succeeded in securing an escort to conduct us from Gerasa over the mountains to Bozra, in the southern border of Bashan. I found at every step of my journey the remains of large towns, scarcely one of them noted upon any map. Then I journeyed northward, in footsteps I had followed before; and there, within a few miles of a city where I had spent some days sixteen years ago, I heard of the existence of a large town which I had never heard of before, the town of Sîah, founded apparently by one of the Herods. I believe it was visited a few years ago by the Count de Vogüé. There I found a number of inscriptions, and, among others, a Nabathean inscription which my companion, Mr. Tombe, brought to this country. That shows the necessity of a minute survey of Palestine. (Cheers.) From Siah I came across the central plain of Bashan, and then in a zig-zag line across the northern portion of Gilead to Gadara. I not only found a great defect in the map there, but the most interesting sites misplaced —for example, Capitolias is on the map south of Arbela, when it should be north;—this shows how necessary it is to make a survey of that country. I came westward to Amatha, and then across the Jordan to Bethshean, and travelled by, to me, a new route, generally in the line of the Roman road, to Shechem, passing Tirzah, famed for its beauty in the Bible, and still famed for its richness in the present day. I then went by the ordinary route to Nazareth, Tiberias, and Damascus. The more I saw, the more I was impressed with the necessity of an accurate survey of the whole country. (Cheers.) There is an idea entertained by large numbers of Christian people in this country that Palestine has been so often visited by persons who are accustomed to investigate and explore, that there is no necessity for any organised Exploration Society to be sent abroad. This is a total, a complete delusion. I have spent as much time, as an amateur, in the exploration of Palestine as any man, and travelled there as much as any man not given to scientific pursuits; but it was impossible for me to explore thoroughly, even in the direct line of my route. For half a mile on each side I can see what ruins there are, but beyond that all is unknown except what I hear. If I pass through a mountainous country, beyond a height a quarter of a mile from me, there may be a large city, of which I know nothing. *It*

is only by an organised Exploration Society that the geography of Palestine can be thoroughly investigated. (Cheers.) We cannot fully understand the history contained in our Bible without a survey. Let any student take the Book of Joshua, and attempt to follow the descriptions given in it, or try to understand the lines of road and divisions there laid down, and he will find it impossible with our present knowledge of Palestine; but when we have a thorough survey made, then we shall be able to follow every line of route in any of the historical portions of the Bible. Or come to the Gospels—take the routes of our Lord—his routes through Galilee and Judæa, and you find that every illustration He makes use of is characteristic of the route He followed; and if you understand the scenery and the topographical features of the places in which our Lord spoke, a flood of light will be cast upon His words, and you will read Gospel history with a new and an absorbing interest. (Cheers.) I trust the people of this country will subscribe largely to this purpose. I do not see why £20,000 or £40,000 should not be contributed within the year, and this would complete the work at once. I trust, too, we shall not be content with surveying the western side of Jordan, but that we shall give some aid to our friends who have undertaken to survey the eastern side, not to take it from them, but to enable them to complete it sooner, for it cannot be accomplished too soon. (Loud cheers.)

The CHAIRMAN: I am sure we are very much obliged to Dr. Porter; no one has done more than he has for our cause. Those who are in favour of the resolution will hold up their hands. (The resolution was carried unanimously.) I will now call upon Sir Bartle Frere to propose the second resolution. (Cheers.)

Sir BARTLE FRERE: The resolution which has been placed in my hands is this:—"Resolved, That this meeting receives with great satisfaction the report of the progress of the survey of Palestine under Lieut. Conder and Mr. C. F. Tyrwhitt Drake, and rejoices to learn the prosperity of the American Society, and the establishment of a German Association for the systematic exploration of Phœnicia." I think, sir, after what we have heard from the gentlemen who have already addressed the meeting, there can be very little doubt as to the satisfaction with which we have heard of the progress already made, and the impression which must have been produced as to the great importance of all those researches in almost every branch of Biblical knowledge. But on hearing what has passed, a question suggests itself to me: How comes it that this survey has been hitherto so very ill-supported? And I think the cause is not very far to seek. There is, no doubt, an impression abroad that this Palestine survey is rather a matter of *dilettante* personal interest to a small knot of persons. The reading world in England has not recognised the more than national importance of the work—that the work is of interest to every branch of Christendom; and if the impression Dr. Porter has described as made on him as to the defects of our general knowledge could be brought home to the general mass of readers

of the Bible, they would be impressed with the great importance of this survey to the inspired word of God, and as the foundation of what is of such immense personal importance to every one. (Cheers.) Then there is another cause which has interfered with the prosperity of the Fund, and that was alluded to by Dr. Porter when he spoke of the general impression that we know a great deal about the country. I would ask gentlemen who are not perhaps so well acquainted with Syria as with Italy, to remember if this was not exactly the case with regard to Rome. I remember when I visited Rome first—thirty years ago—you did not meet one Englishman out of ten who did not believe that everything about Rome had been learnt long before; but at the end of some months' residence in the city, they found themselves discovering that there was hardly an ascertained point in the classical history of the city. Since then much has been done on the lines which, I think, it is desirable to follow in this Palestine survey, and that is, by a most thorough investigation, a complete chartography on the largest possible scale. This has been carried out in England. At first, people were content with the maps in Camden's "Britannia," and then they got to county maps, and then, after a long process of time, we got to an Ordnance Survey; but I doubt whether until quite lately we have realised the waste of time, money, and energy which was incurred by beginning at the wrong end—by using bad maps, and eye-sketches, and only arriving by a gradual development to a better kind of map. I speak in the presence of gentlemen who will correct me if I am wrong, but I believe if you have money to spend on map-making it is the best plan to do it in the best way from the beginning—(hear, hear)—and just in the way Lieut. Conder has done. (Cheers.) If you refer to the greatest authority we have on this subject, Sir Henry James, he will tell you that if the survey of England had only been begun in the way in which it is now carried on, hundreds of thousands of pounds might have been saved, and enormous incidental advantages gained; and this is of greater importance to realise when we are so straitened for funds. (Hear, hear.) I have heard people say, "What nonsense, when we know so little of the country, to have such an elaborate survey!" On the contrary, any man who knows anything of the economical bearings of the subject will admit that those surveys we are now asked to make are the very most economical way of spending any money you have, whether it is much or little. That, I believe, is a point which any gentleman who is skilled in surveying and map-making will confirm. (Cheers.) The resolution has a second portion, which says that we rejoice in the prosperity of the American Society, and the establishment of a German Association for the systematic exploration of Phœnicia. I feel certain that all who have the prosperity of the work at heart will rejoice in this; but there is a feeling of dissatisfaction with ourselves. When we hear of £12,000 being raised in America, we ask, Why should we not have raised £20,000? It is difficult to find an answer to that. And when we see a German Association formed for the systematic exploration of Phœnicia, we may well look

to ourselves, and take care that we are not surpassed in this by our accurate, painstaking, and thoroughgoing German neighbours. (Cheers.) I ask those interested in the matter—having divided Syria and the work to be done between these three Associations—if they find that the work of other nations is done more quickly, more accurately, and more thoroughly than ours. It behoves us to do what we have to do—to finish in the most complete manner our part of the work, and then turn round and assist others. (Cheers.) I trust this resolution, in commending itself to this meeting, will incite every one to follow the track so well pointed out by Mr. Grove, and to look upon this as a matter of individual importance to every one. (Cheers.) Sir Henry James said that the Ordnance Survey never got a hold on the nation till we recognised the fact that every man could get a sheet and find the spot he was most interested in himself; and I will put it to the meeting if the map of Palestine is not of the intensest interest to every one, so as to make it a matter of thorough individual and practical interest to each one of us. (Cheers.)

Sir FREDERICK GOLDSMID: Mr. Chairman, Ladies, and Gentlemen,—I was about to express my regret that the task of seconding the resolution which has been moved by Sir Bartle Frere had not been put into more efficient and practised hands than my own, but there is no need for that, because on the present occasion everything that can be said has been already said by those practised speakers who have preceded me, and therefore I should be doing you the greatest service by calling your kind attention to and seconding the resolution which has been so ably spoken to by Sir Bartle Frere. (Cheers.) (The resolution was unanimously carried.)

The Rev. GEORGE WILLIAMS: I am called upon to perform a pleasing duty, in which you are to take part. I am asked to propose a vote of thanks to our two Chairmen, the Very Reverend the Dean of Westminster, and Mr. Walter Morrison, who has so ably succeeded him in the chair. I will not detain you with any words of my own, and I am quite sure the vote will be carried by acclamation. (Loud cheers.)

The CHAIRMAN: On behalf of the Dean of Westminster and myself I must return you my thanks for the compliment you have paid us. The Dean has always been present at our meetings, and may always be depended upon to fill up a gap when we find ourselves short of speakers, and he has not failed us under the loss of our usual chairman to-day.

IDENTIFICATION OF THE ALTAR "ED."

AMONGST the famous places connected with the first conquest of Palestine by the Jews, it is remarkable that not one has as yet been discovered which can be attributed to them as original founders. Hebron, so famous as a sacred spot, was a city of the Canaanites. Jerusalem, only captured as late as the time of David, was strongly fortified by the Jebusites. The same is true of Shechem, of Kirjath Jearim, and of all the famous strongholds and sacred sites of the country. There was, however, one site, a monument erected for all the trans-Jordanic Israelites, a great work constructed by the labour of all their fighting men, dating from the very time of the conquest, and a sacred spot jealously regarded as vying with the divinely-appointed centre of worship at Jerusalem. The identification and exploration of such a site cannot fail to be considered as of the highest interest, and it is to this task that the present paper is devoted.

The account of this site is contained in the 22nd chapter of the book of Joshua. The survey of Palestine was complete, the divided portions had been allotted to the various tribes, and the success of the first incursion and rapid mountain campaign in Judæa, had been followed by a period of peace and repose. Joshua found, therefore, that the services of the two and a half tribes who had left their possessions beyond Jordan to assist in the conquest of Western Palestine were no longer of immediate importance, and they were permitted to return to their possessions and families, to the uplands of Gilead and the broad corn-plains of Bashan, which they had preferred to the barren hills of Judæa. From their tents at Shiloh they commenced their homeward march, with the benediction of their leader and their brethren, "with very much cattle, with silver and with gold, and with brass and with iron, and with very much raiment,"—spoils still dear to the wandering Bedouin.

"And when they came unto the borders of Jordan, that are in the land of Canaan, the children of Reuben and the children of Gad and the half tribe of Manasseh built there an altar by Jordan, a great altar to see to." (Josh. xxii. 10.)

The remainder of the chapter is devoted to the dispute which immediately arose, and its final settlement. The remaining tribes, seeing a place of sacrifice thus erected in the desert, supposed it intended as a rival to the expected altar at Jerusalem, and regarded it as a sign of separation and schism on the part of their brethren. Jealous of this apparent rivalry, or fearing to incur once more the wrath of Jehovah, they

prepared, with their ordinary impetuosity, to turn their swords from the Canaanite upon their own people and late allies. The explanation given to their heralds was, however, fortunately sufficient to satisfy their political or religious doubts, and to show that far from being intended as a mark of division or religious dissent, the monument was erected simply *as* a monument, a point which from beyond Jordan might be indicated as showing the relationship with their western brethren, if not a fortress to command the passage of the river and form an outpost for the eastern tribes.

The revulsion of popular feeling at once rendered the monument one of the most favourite sites in the country—a bond of union between the divided tribes. "The thing pleased the children of Israel. And the children of Reuben and the children of Gad called the the altar Ed: for it shall be a witness between us that the Lord is God" (verses 33, 34.)

In considering this account several indications of position are at once evident.

1st. The altar must have been in or near the direct route of the Reubenites, from Shiloh to the land of Gilead and Bashan. This route is very easily traceable. From Shiloh, the modern Seilun, a mountain road leads to the broad Wady Far'ah which I have had occasion to describe in identifying Ænon. The well-known Damieh Ford, the highway from all the eastern uplands to Central Palestine, and generally identified with the "City Adam," lies opposite to the opening of this broad valley. It was without doubt by this main passage, lying directly in their shortest route, that the returning tribes would have crossed in order to reach the oak-clad uplands of Mount Gilead, and the more northern corn-lands of the Hauran.

2nd. There can be no question that the altar was erected on the western side of Jordan. The words of the text allow of no other interpretation, and the very intention of the monument was to obviate the possible argument, "the Lord hath made Jordan a border between us and you," by continuing to hold a possession within the country of the remaining tribes.

There is, however, a verse in the account which, being ill-translated in the English, at first seems to militate against this second proposition. Ver. 11 speaks of the altar as "over against the land of Canaan, in the borders of Jordan, at the passage of the children of Israel." The Hebrew preposition, however, has, according to Gesenius, the meaning, *in the fore part, in front*, that is to say, *on the borders* of the land of Canaan; whilst the ford or passage of the sons of Israel need not refer to the original passage at the smaller ford near Jericho, but should rather be taken to be that by which the children of Reuben had just passed. The verse would read, therefore, "at the boundary of Canaan, by the Gelilloth of Jordan, at the place where the Israelites crossed the river" to return to their eastern possessions.

3rd. The altar must have occupied a high and conspicuous position. The Septuagint translates the words used in the Hebrew μέγαν τοῦ ἰδεῖν;

the Vulgate, "altare infinitæ magnitudinis," an altar great to see. The Hebrew word, however, includes the idea of a *view;* and "an altar visible from a great distance," rather than of great size, is probably the correct translation. In confirmation of which we have the particle translated in English "*at*" Jordan, but in the Greek ἐπὶ, and in one of the Latin translations "super," *above*. The Hebrew (עַל) is the same as the Arabic, which has the meaning of *raised above*, or *high up*. It is evident that so important a monument would not have been placed in an ordinary or inconspicuous position. It was intended as a landmark and a beacon to be seen from the eastern side, and there can be no doubt that some prominent natural object, a hill of peculiar form, or conspicuous from the eastern plateau, is the natural site to be looked for. Like most altars, it would be placed on a hill-top, and on one easily distinguishable in the range of the chalk peaks above the Jordan valley.

4th. The altar was no ordinary work. It was a "great altar." This, as we have just seen, is the direct meaning of the Hebrew, and the opinion of all the translators. It was no mere pile of stones put up in a single night, like the rude monuments of Jacob and Laban. The fighting men of two and a half tribes were concerned in its erection, and the fame of their work spread throughout the country. There is nothing to show that it was not a work of time, and the slow progress of Orientals on a journey well accords with the idea that they may have remained in the beautiful valley for some considerable period whilst engaged in constructing a monument which was to be an everlasting memorial of their share in the privileges and religious observances which were to find a centre at Jerusalem. As a monument, and not an altar, it may well have consisted of hewn stones, and in this it would have resembled the ancient beacons to be found in other conspicuous points throughout Palestine.

In concluding this part of the question, we may retranslate the most important passage as follows:—

"And when they came to the Gelilloth of Jordan, which are in the land of Canaan, the sons of Reuben and the sons of Gad, and the half tribe of Manasseh, built an altar above Jordan—a great altar to be seen from far."

In passing we may pause a moment to glance at the word Gelilloth, usually translated *borders*. It is a word which has puzzled all commentators, and been variously explained. It is etymologically the same as Gilgal, and has been connected with the title of Galilee. It occurs in Josh. xviii. 17–19, where the Vulgate renders it "tumulos," and in the present chapter it is twice used and translated Λαλααδ in the Septuagint, and "tumulos" by Jerome in each case. The root from which both words come has the meaning of "rolling," and the Vulgate rendering of a *mound* is without doubt the most correct. Dean Stanley has supposed it to refer to the Ghor, or upper plain of Jordan, as distinguished from Ciccar, now called the Zor, or lower river channel. He translates it "circles," and suggested a connection with the Scotch

links, referring to the windings of Jordan. My late colleague pointed out that the Gelilloth mentioned in tracing the boundary line of Judah were in all probability the tells or artificial mounds near the ascent to Adummim, of which I have given a full account in a previous paper. The word, however, has a wider meaning in other passages, and refers to places in the Jordan valley where no tells exist.

The manner in which the descent from the Ghor to the Zor level takes place differs very much in various parts of the valley. Sometimes it is a continuous line of cliff, as near Beisan; sometimes, as in the narrow gorge north of Wady Far'ah, the upper plain almost disappears, and the lower reaches near to the foot of the hills; but more generally there are broad water channels and low marshy creeks, with salt springs and mud flats which run irregularly, leaving round islands with flat tops on the level of the Ghor or upper plain, and steep rounded slopes. The appearance presented by these isolated mounds and the broken undulating network of channels is, no doubt, that which is indicated by the expressive Hebrew term Gelilloth. It appears, therefore, that Dean Stanley's explanation is probably to be accepted as correct, but the term would not naturally apply to all parts of the valley, as in places none of these Gelilloth or isolated fragments of the upper plain exist.

From the internal evidence we are therefore able to point with tolerable accuracy to the approximate position and character of the great Witness Altar. It must be near and above Jordan, on some hill-top west of the river, between the modern village of Seilún and the ford of the Damieh, placed in a conspicuous position, and possibly giving ruins of some magnitude. In addition to which we should hope to find remains of the name in some modern Arabic word.

There is but one spot in Palestine which will fulfil these very definite requirements, and that spot is perhaps the most conspicuous in the country. From the heights of Ebal its sharp cone stands out against the white valley; from the castle of Kaukab el Hawa, near Gennesaret, it is visible at a distance of thirty miles; from the shores of the Dead Sea and the plains of Jericho it stands forth prominently as a great bastion closing the Jordan valley; from the eastern highlands it is no less conspicuous, and from the Judæan watershed it is visible at a great distance. Every traveller who has been to Jericho has seen it; all have asked what it is, and been disappointed to find that it was of no historical importance, and had only a modern Arabic name. For nearly a month I lived at its foot, firmly convinced that so conspicuous a landmark must have played a part in history, yet utterly puzzled as to what that part could have been. To every explorer it has been a point of interest, and yet I know of hardly one who has examined it. The place in question is the high cone of the Kurn Surtabeh, the Surtabeh of the Talmud, and one of the most important of our trigonometrical stations on the eastern border of the survey.

The Kurn Surtabeh is the culminating summit of an almost isolated

block of hill which closes in the broader part of the Jordan valley on the north. The whole block consists of white marl capped by a brown hard oolitic limestone of late cretaceous or eocene formation. The very marked inconformity of the lower beds causes a sort of separation which cuts off this mass from the uptilted beds of the central watershed. From the summit the whole valley of Jordan is spread out like a map. On the south lie the black groves round Elisha's fountain, the sharp peaks and shining waters and distant blue ranges round the Dead Sea. Nearer is the white cone, which rises, a miniature of the Kurn itself, against the sharp rocky precipices of the Mountain of Temptation, and which I have endeavoured to show is the "rock Oreb" of the book of Judges. Dark ranges close in to the watershed, shutting out the view of the first beacon station of the Rabbis on Olivet, whilst unseen in one of the narrow gorges lies 'Ain Fasail and the ruins of Phasaelis. On the east the great mountain wall stretches away north, broken only by the outline of the famous castle Kala'at el Rabed. At the very foot of the mountain, 2,000 feet below, lies a green plain. On one side a slope of nearly forty degrees stretches from the summit sheer to the base. The northern plain, gay with flowers and green with corn, is the mouth of the Wady Far'ah, a spot so charming that Vandervelde has marked it on his map a "beautiful valley." The stream from the fountains of Œnon flowing through it is nearly perennial, and in winter scarce fordable. Its course, hitherto unsuspected, was found by us to run south round the Kurn, and parallel with Jordan for about seven miles.

In the plain stands the little white dome of Abd el Kader, and the ruined traces of another great town of Jewish or Roman times, with a necropolis, having a fragmentary inscription in old Hebrew on one of its tombs. These ruins I suppose to be those of the town of Archelais, known to have been near this spot. Beyond the plain are rugged hills, with steep slopes, the valley here becoming a mere gorge, and in the far distance are the hills of Gilboa, Tabor, and Kaukab, with the narrow thread of the Sea of Galilee, and the white crest of Hermon beyond all.

Standing thus centrally as regards the eastern and western possessions of the tribes, the Kurn is very difficult of approach. The ancient road, cut in steps, arrives at the summit on the south, but on every side the valleys are deep, narrow, and impassable, and the only natural ascent is from the more gentle declivities on the north, by which the watershed of the block is reached, and followed along its tortuous course till it leads to the actual summit. The importance of this remark as to the point of ascent will be seen later.

The great peculiarity of the summit consists in the existence of a cone or tell, with sides sloping at 35 degs. and about 270 feet high on the west, where it joins a narrow plateau. On other sides the slope is sheer to the base of the mountain, and the work of walking round the cone, which was necessary in order to visit certain caverns, required, as I found, considerable resolution, for there is but little foothold on the

soft, shingly slope, and nothing stronger than the flower stems for the hands, whilst the view to the fallen blocks, 2,000 feet below, is trying to ordinary nerves.

There can be little doubt that this extraordinary cone is only in part natural. It bears a striking family likeness to the smaller peak near Jericho—the rock Oreb. Seen from the south the two come almost in line, the Kurn Surtabeh seeming a gigantic double of the other. This sort of formation is due to a hard cap of small extent upon a softer base bed, which is worn away by the rains into a conical form. The extreme regularity in the present instance leads however to the supposition that human skill increased the already marked peculiarity of form. The great mound at Herodium (Jebel Fureidis) seems to be another similar case.

The constructions which we found upon the summit of the tell, when leaving our horses at its base, we with difficulty struggled up, were of the highest interest. In an oblong area of about 30 by 100 yards, enclosed by a ruined wall of fine hewn blocks, is a great platform 18 ft. high, consisting of ten courses of stones beautifully cut, and averaging three or four feet in length, with a broad marginal draft. The platform is long and narrow, apparently solid, and of a most puzzling character. It was at once evident that it was either Jewish, or at the latest Roman work, and intended as a gigantic altar or beacon.

Careful search showed remains of fires, which had been kindled on part of it, and these we suppose to have been the beacons mentioned in the Talmud. The most striking point was, however, the great size and good workmanship of the stones, which were of great weight; and the labour of bringing them to the spot, hewn, as they must have been, at least below the foot of the tell, or 270 feet from their present position, shows that this work must have been a monument of no small importance. I discovered in a later visit the probable quarries whence the stone was brought, a series of caves in the south-eastern side of the hill, about the level of the little western plateau. The base of the tell on the side of this plateau is strewn with huge fallen blocks from the outer surrounding wall, and on the east lies a confused mass of fallen masonry, showing that the monument was once larger or probably more lofty than at present.

There are two other peculiarities in the ruins deserving notice. The first is a curious aqueduct, which runs round the whole mountain block. Careful levelling showed us that it was impossible this channel could have communicated with any existing spring. It was merely intended for the collection of surface drainage and rainfall, and leads to several large cement-lined cisterns on the north-east side of the cave. The second point is the apparent existence of an ancient garden or fruit yard —a series of terraces very visible from our camp in Wady Far'ah.

Such are the existing ruins. It now only remains to point out how perfectly this site fulfils the requirements for that of the Witness Altar. In the first place, the Kurn Surtabeh stands above the Damieh ford,

and beside the direct route to it from Seilún, or Shiloh, upon the western side of Jordan. Secondly, it is, as we have seen, a point remarkably conspicuous from a great distance on every side. Lastly, upon its summit remains to this day the ruin of a great monument of the kind indicated in the Bible account. At the foot of the mountain lie the Gelilloth of Jordan, the ground being of that peculiar broken character to which I suppose the word specially to refer.

When, in addition to these indications, we find a trace of the original name, the conclusion seems irresistible. For some time I sought this in vain on the map. It is a question which I leave to the learned whether there can be any connection between the name Surtabeh and the Hebrew (מִזְרֶבֶה) Metzebeh—the altar. The remaining summits of the block are called respectively El Musetterah, Ras el Kuneiterah, and Ras el Hafireh. The real name, as often happens, has deserted the place itself, but may still be traced in the neighbourhood. I have already pointed out that the natural ascent to the Kurn is from the north. On this side I find marked on our map as a valley name Tal'at Abu 'Ayd. *The ascent of the father of 'Ayd.* The peculiar use in the vernacular Arabic of the word Abu, as meaning that which produces, or leads to or possesses, would make the natural translation of this term to be, "The going up which leads to 'Ayd." Between the Arabic *'Ayd* and the Hebrew (עֵד), no scholar can fail to see the identity, and thus, though the monument itself has lost its real name, the ascent to the summit, by which the strong men of the two and a half tribes must have first gone up, preserved the memory of the Witness Altar.

To future travellers in Palestine, this identification cannot fail to be of the highest interest. From the ordinary camping ground at Jericho the great peak is distinctly visible, and no longer will stand out with a forgotten story, but rather as the greatest monument of the great deeds of that first conquest, and in the words of the last verse in the chapter, as a "witness between us that the Lord is God."

In conclusion, I feel I can point with some pride to this identification, as showing the satisfactory character of our work. It was not till after my return to England that I first turned attention to it. At the time, we could have no idea of the importance which would attach to the name Tal'at Abu 'Ayd, and it was merely collected by one of my non-commissioned officers with the same mechanical care and conscientiousness which marks the work of the whole party. The name has now served to clinch an important argument, and settle an identification of the highest interest.

CLAUDE R. CONDER, Lieut. R.E.

9th July, 1874.

THE SURVEY OF PALESTINE.

A PAPER READ BEFORE THE BRITISH ASSOCIATION.

By C. R. Conder, R.E.

The country included under the name of Western Palestine, and to which the present Ordnance Survey is confined, is bounded by the Jordan, and the sea, and extends from Dan to Beersheba. It contains approximately 6,600 English square miles. The desert shuts it off on the south, and on the north the line taken will follow the River Leontes and extend along the parallel of latitude to the sources of the Jordan near Banias—the ancient Dan.

The country thus bounded may be divided into five geographical districts. Two of these are on the south, where the geological formation is a gentle anticlinal, giving a high and difficult hill country, of an average elevation of about 3,000 feet in the centre, with a broad plain on the west, whilst a rapid descent on the east leads to the great crevice of the Dead Sea. The hill country is that of Judæa. The great plain is that of Sharon. Between these two lies the less remarkable feature of the Shephalah, a low range of hills of a cretaceous limestone not conformable with the Dolomitic beds of the watershed.

North of Nablus (the ancient Shechem) the character of country changes, the central watershed divides into two, giving one chain of hills running north-west and terminating in the great bluff of Carmel, which rises 1,300 feet above the sea, whilst a second chain continues due north and separates the Jordan valley from the great plateau extending between the two ranges, and generally known as the plain of Esdraelon. The fourth district is the difficult hill country of Galilee, and the Safed range with a mere strip of plain on the coast, for the plain of Sharon narrowing suddenly is bounded by Carmel on the north, and in Phœnicia the hills come down almost to the sea itself. Last, but not least, the Jordan valley forms an absolutely distinct division, differing in climate, in fauna, and in flora, and inhabited by a different race. Commencing at about sea level on the north, it descends to 600 feet below that level at the Sea of Galilee, and thence to nearly 1,300 feet, the level of the mean surface of the Dead Sea below that of the Mediterranean.

Of this extent of country many districts are but little known. The plain of Sharon, Carmel, the greater part of Judæa, and the central line of the country, have been often visited. Philistia, or the south-western plain, was almost unknown before the time of Captain Warren. The country of the Beni S'ab, or Shephalah, west of Nablus, had been quite

an unknown country until surveyed by the present party. The Jordan valley was best known by Captain Warren's rapid reconnaissance, but the district between this and that included in Major Wilson's work was almost a *terra incognita*. The Sea of Galilee has been carefully explored by the latter officer, but an unvisited district said to contain synagogues and other remains of interest exists north of this lake. Wherever the present survey party has gone over new ground it has met with places of extreme interest and obtained results of great value.

The work which is now being carried on consists in a regular trigonometrical survey to the one-inch scale of the whole country thus described, together with supplementary researches, antiquarian, Biblical, and physical. It was first commenced in October, 1871, by a party of Royal Engineers, consisting of two non-commissioned officers under command of Captain Stewart, R.E. Mr. C. F. Tyrwhitt Drake volunteered to accompany the expedition and give them the advantage of several years of acquaintance with Syria and a good colloquial knowledge of Arabic. The expedition met with a serious check at the outset in the severe illness of the commander, who was obliged, by medical advice, to return almost immediately, and subsequently to resign his appointment. Maritime Sergeant Black, R.E., was left to prosecute the work unaided, the party being under Mr. Drake's care. He at once proceeded to measure a base and extend the triangulation, connecting it with the Ordnance Survey of Jerusalem, and advancing north towards the plain of Esdraelon, where it was proposed to obtain a check by measurement of another line. Thus, by June, 1872, 560 square miles had been surveyed and finished, and the party rested for a while at Nablus.

Meantime I had been appointed to succeed Captain Stewart in the command, and arriving in the country joined the camp at Nablus and immediately recommenced the out-door work. By September the second base line had been measured and found to give most satisfactory results. The triangulation was thence extended with fine well-shaped triangles towards the north, and the great plain completed, the party remaining for the two winter months in a house in the German colony at Haifa, under Carmel, and employing the fine days in completing the map of this ridge. In March, 1873, they turned their faces southward, connecting on the east with the former work and extending it to the sea-coast. In April Mr. Drake left for England, his health being impaired by the climate, and it was not before six months had elapsed that he was able to return.

May was spent still in the plain of Sharon, and in June the Shephelah was surveyed, a district almost entirely unknown, and into parts of which no European had as yet penetrated. Another non-commissioned officer was at this period added to the strength of the expedition.

During the heat of the summer the party retired to the Antilibanus, and visited Hermon and Baalbek. In October the work was recommenced and extended south of Jerusalem, whence the party proceeded to the Mar Saba desert, and so arrived at Jericho and the north shore of

the Dead Sea about the middle of November. Here another serious check was experienced in an attack of fever from which Mr. Drake suffered extremely, whilst many of the native servants were dangerously ill. It was found necessary to retreat to Jerusalem, and the bad weather set in almost at the same time. The unexampled severity of the winter, with other causes, delayed the expedition until the end of February, when they again took the field and advanced up the Jordan valley, the survey of which was completed up to the Sea of Galilee (in spite of the most unfavourable weather) by about the middle of April. The plain of Sharon was then completed, and in May of this year I returned on duty to England, bringing home the results of the two years' work. The non-commissioned officers in the meantime remained in Jerusalem occupied with various indoor duties. The survey extended at this period over 3,000 English square miles, including the whole of central Palestine from Nazareth on the north to Bethlehem on the south.

According to the latest reports from the sergeant in charge of the party they were all in good health and busily employed with sedentary work. But one sad exception has to be made. Mr. Drake, who had recovered very rapidly from his first attack of typhoid fever, and had accompanied the party during the trying spring passed in the Jordan valley, was again seized in Jerusalem. In spite of the great kindness and care of a skilful English physician, his liver became affected, and on the 23rd of June he died. His name is well known to geographical circles as a hardy and energetic explorer, and his loss will be severely felt by the expedition in its future work.

The map has been prepared on Sir Henry James' system of tangential projection, in sheets containing 30′ of longitude and 20 of latitude, giving about twelve sheets in all. Of these, six are complete, and three have been brought home to England. The remaining four sheets include some very difficult country, but the most delicate and dangerous part of the work, the survey of the Jordan valley, has been already successfully completed, and there is every reason to hope that the future success will be equal to that of the work already accomplished.

The principles of the survey may now be briefly described. The first base was very carefully measured with chains corrected before and after use, by means of a standard steel chain, graduated for the temperature of the spot. It was connected with the trigonometrical point at Jaffa, which is taken as the initial point for calculation of the difference of longitude, Jaffa having been fixed by the Admiralty from the known longitude of Alexandria. The mean length of the line was 4·3 miles. It was checked by observations to a point opposite the middle, the whole length being calculated by the angles thus obtained from the measured length of a part. The triangulation was thence extended eastward with lines from three to ten miles in length, and connected with Major Wilson's points at Jerusalem. Thence it was carried north to the plain of Esdraelon, where the second base was established. The length of

this base was four and a half miles, and the difference between its measured and calculated lengths gives an error of ·03 per cent. This was considered as extremely satisfactory for the style of work expected, and especially when the difficulties presented by the mirage and other atmospheric phenomena, the destruction of cairns, and the peculiar form of the triangulation, extending over 60 miles in length by about 10 in breadth, are considered.

The ends of the base, after it had been laid out with a five-inch theodolite, were marked by cairns, the southern one being set roughly in mortar, with blocks of considerable size. The base was traced on a distant point, so that by calculation it could be extended about eight miles further. Observations for latitude were taken from the southern end, and a true astronomical bearing; it was measured and checked like the plain of Sharon base, and every precaution taken to insure accuracy. A fine line, almost at right angles, was obtained between two good points on Gilboa, and on the volcanic cone of Sheikh Iskander, east and west of the plain of Esdraelon. The average length of the side of a triangle was in this part some 15 miles, but in the Judæan hills it is never greater than 10 miles.

Besides this check thus obtained on the work, several others were established. The vertical heights, starting from the sea-level at Jaffa, and brought through the centre of the country, were carried down to the dome of the Convent on Carmel. The height of this was then obtained by a simple trigonometrical process from the length of a line measured on the beach. Further checks are also obtained along the shore by the measured height of buildings in the sea used as trigonometrical points. The heights across the country were compared with the very accurate levelling by Major Wilson, R.E., and the difference was about four feet in the level of the Dead Sea, a very satisfactory proof of the character of work in the new survey. Further checks and very long lines will be obtainable on working out the observations sent home for calculation. One of these gives a fine line of over 35 miles, observed both ways, and immediately connected with a true astronomical bearing. Being nearly north and south it will serve as a check for longitude. Another line has also been observed both ways, from Carmel to Hermon.

A check of the longitude was obtained by comparing the minaret at Acca, as fixed by the triangulation, with its position according to the Admiralty. The agreement was very satisfactory.

The observations thus obtained and checked are calculated at once, and the points laid down by the calculated lengths. The detail is then filled in by the following system of interpolation. From each trigonometrical point a large number of observations read to the nearest minute are taken of all prominent objects, village towers, mosque domes, cross roads, prominent trees, or any other easily distinguishable point. The intersections of the line, from two or more stations, when scored by protraction, are considered sufficient to fix these secondary points.

The work from each camp is then divided into four, and sheets of tracing paper prepared, upon which the stations and fixed secondary points are shown, and the remaining detail is filled in upon the ground by interpolation with the prismatic compass, from observations taken to three or more of the fixed points.

With practice, from eight to twelve square miles per man can be completed by this means in a day, and thus, in four days, the whole amount, averaging about 100 square miles, is easily finished. Allowing two days for the trigonometrical observations, one for plotting, one for finishing, one Sunday, and a day for archæological work, this gives an average of ten days for a camp.

The rate of work on first starting was about sixty square miles per month. By the time of my joining, it had risen to 100; from that date till the winter 1872-73, it increased to about 150; and from then till October, 1873, it was about 180. From that time, the party being augmented by one man, it has continued steadily to give an average of 280 square miles completed monthly, and there seems no reason why this average should decrease in future work as long as double theodolite parties and four detail sketchers can be maintained.

The whole of the work is done on horseback, and the method pursued would be most especially fitted for military reconnaissance, where prominent points could be laid down from the map and detail sketched from the horse's back, by interpolation, with the compass.

But one other part of the map work remains to be noticed—the execution of the hill shading. This is done by myself in on separate prepared sheets. Each surveyor is provided with one of Abney's improved clinometers, with which he takes occasional observations of characteristic or peculiar slopes, marking them on the ground. He also sketches the shape of the hill-tops on the spot, and, from these notes, together with a good general acquaintance with the piece of ground being surveyed, it is quite possible to represent the hill features with an accuracy proportionate to the scale. I have found also that a series of outline panoramic sketches from the various stations is very useful for the execution of the hill shading, as well as for geological purposes.

The principal heights are obtained, as already explained, by angles of elevation and depression. For minor points we are contented with corrected aneroid observations, of which we have now secured altogether upwards of 1,500, or one to every two square miles of country.

The method of correction is as follows:—The aneroids are read every morning in camp with the mercurial, the readings being kept in a book devoted to meteorological observations. The observations are made at wells, ruins, valley junctions, springs, hill-tops, or any other place which can easily be identified on the map by its name. A small pocket thermometer is kept with the aneroid under the same conditions and read with

it. The attached thermometer is also read with the mercurial, and the aneroid is again read on return to camp. By these precautions the correction of the aneroid reading is made very exact, and although we have not discovered any law of variation for the pocket instruments, still, considering the elevations not to exceed generally 3,000 feet above sea-level, the results are likely to prove satisfactory. As, however, the constant transport of the mercurial is liable to destroy its perfect accuracy, it will be desirable to check the heights of camps obtained by it. This will be easily done by means of the levelled heights of a great number of the camps, and in other cases by the aneroid readings at the trigonometrical stations whose heights are known.

Astronomical observations are taken at every camp, both to serve as a rough check during the progress of the work (although the accuracy of such a method is not comparable to that of careful triangulation), and also to keep a record from time to time of the variation of the compass. True astronomical bearings of the longer lines are also obtained, as, for instance, that of the check base, which was traced on a distant point, and of the line already mentioned from Hermon to Carmel. The other observations are for latitude and for time, and have all been satisfactory, the most important being a series taken from the summit of Hermon, by means of which, with a true bearing, the latitude and longitude of this mountain will be very accurately fixed. In addition to this, Hermon will finally be fixed by triangulation, and its height obtained by two vertical angles, the one to the mercurial station at Bludan, the other to the convent on Carmel, which is fixed by immediate measurement from sea-level. This mountain forms, in fact, an outlying point, to which long lines can be obtained from most of the principal points in the survey.

I may now turn to another department of the work, which is of the greatest importance, namely, the nomenclature. Nothing is more striking in Palestine than the manner in which the original Hebrew names are still to be found under slightly modified forms in the Arabic. Very often a later Roman name by which a town may have been known in Herodian or early Christian times has altogether disappeared, and the original Biblical name has reasserted itself. Beisan, the ancient Beth-shean, was subsequently known as Scythopolis, a name now entirely lost. This is but one instance out of many.

The collection and correct spelling of these names, as tending to throw invaluable light on the geographical passages in the Old and New Testaments, and especially in the early books of Joshua and Judges, forms a most important and anxious part of the survey work. The danger of only receiving a fictitious or wrong name in unexplored parts is very great, as ignorance, stupidity, suspicion, and perverseness, alike incline the natives to give a lying answer to the plainest question. The practice obtained by the non-commissioned officers has proved throughout most important in this department.

The names, which are kept in lists arranged alphabetically for each

sheet, are invariably obtained from natives belonging to the neighbourhood. They are checked by reference to at least three persons. They are written down in English on the spot, and on the evening of the same day are pronounced by the surveyor in presence of the native guide, and of a competent Arabic scholar. This latter duty was the main responsibility of my late colleague, who had an unusual familiarity with colloquial Arabic. The greater part of the names have been gone through with an educated native scribe, and no pains has been spared throughout the course of the work to ensure correctness both of the spelling and pronunciation of the word, and also of its position on the map. A sort of test of this accuracy is found in the numerous identifications which spring up as the work proceeds. As an instance, I may mention the identification which I have just been able to make of the Kurn Surtabeh, as being the Altar 'Ad mentioned in the book of Joshua. The requirements were all fulfilled, but the name appeared to be lost, until I found marked on our map the Tal'at Abu 'Ayd, or ascent leading to 'Ayd, as the name of a broad valley north of the mountain. This satisfactory confirmation of the other evidences is the result of the systematic collection of every name of however little its apparent importance at the time. Nor is this a solitary instance of the subsequent importance attaching to a name apparently obscure and of doubtful antiquity.

The number of names collected is very large; it averages seven or eight times that on the best existing previous map. On the Jerusalem sheet alone there are considerably over 1,600 names, and although in the less densely populated parts, such as the great plain of Esdraelon, and the other broad corn plateaux, the number is smaller, still it seems probable that scarce a single name of any interest or importance can have been omitted. In a country like Palestine an average of two names per square mile is greater than would at a first glance be expected. The care and attention bestowed on their correct location will, it is hoped, render the map invaluable in settling the disputed points of the ancient geography.

The main object of the map, as first projected, was indeed antiquarian. The thorough examination of the country, with notes of all existing ruins and indications of sites worth excavating, formed the main part of the instructions. Natural history, geology, and physical geography, were also to be studied as far as circumstances and the aptitude of the observers allowed. This work, therefore, forms one of the main labours of the party, and often delays the actual survey considerably.

The method pursued is as follows:—Every ruined or interesting site is visited and noted on the spot. Such as contain nothing of importance are not specially reported, but merely included in alphabetical lists arranged for each sheet of the map.

Any, however, where distinguishable relics are still to be found, are at once reported and visited by myself. All buildings, dating earlier than the times of Turkish occupation, are planned with more or less

detail according to their importance. Of the ruins, no less than 350 are noted on a single sheet of the map. The special plans and surveys, including the sites of Jewish and Roman towns, temples, churches, synagogues, tombs, crusading castles, sections of aqueducts, artificial caves, and early Christian convents, none of which have been previously planned or explored in a satisfactory manner, now number more than seventy. We have added seven churches to those planed by De Vogüé, and obtained in the unexplored country two sites of towns, evidently of some importance, with traces of the public buildings, and details indicating date, sites never before visited and entirely unknown.

The plans are executed in various ways. Cæsarea was surveyed by a traverse with the 5 in. theodolite, the buildings measured with a chain, and placed by compass angles from the points fixed by the traverse. At Beisan we had a base given by a short trigonometrical line, and used this with a triangulation, which was plotted, the details being filled in with the compass, and the principal buildings measured and plotted to a scale of 20 ft. to the inch. Athlit was executed by a compass traverse which, with pacing, plotted in a very satisfactory manner.

In the survey of caves the best method is the determination of main lines by a compass bearing, and the plotting of the walls by offsets, as in a traverse; the same method is also very useful in the planning of the complicated systems of catacombs found in many parts of Palestine. For such buildings as the ruined churches and convents, direct measurements of the walls are preferable; but in all cases where the work is not plotted to scale on the spot, it is most necessary to remember that numerous cross checks, and a great number of measurements, save time and ensure accuracy in the subsequent working out. Where possible the site is always revisited, plan in hand, and any trifling inaccuracy corrected on the spot.

It may be interesting to enumerate some of these ancient sites with the more striking identifications resulting from the survey, and to give some account of the geological notes which have been kept throughout the progress of the work.

In his interesting work on rude stone monuments, Mr. Fergusson accuses the Palestine Exploration Fund of being too busily employed in map-making to find time for the investigation of the real antiquities of the country. To this accusation our work happily gives a complete answer. Whereas no single example of a rude stone monument was known in western Palestine at the time of this publication, Mr. Fergusson will be delighted to hear that we can now point to four which are of undoubted character. The first is a cromlech with sepulchral barrows, mentioned by Mr. Drake in an early report. By the curious constructions north of Jerusalem, known as the Kabúr beni Israim, is another fallen rude stone monument. Apparent remains of a third exist east of Jerusalem, and a fourth of very large stones is found near the plain of Esdraelon. In addition to this we have found some very curious monuments south of Jerusalem, which may very probably be

sepulchral mounds of early date. We have also collected flints from various parts of the country, although I failed to find any in the traditional tomb of Joshua, where they are mentioned by a French explorer.

There is no doubt that a very exaggerated estimate has generally been made of the antiquity of ruins in Palestine. Many which have been commonly called Jewish or Phœnician, turn out on close inspection to be Crusading or Saracenic, and our results are often valuable only in a negative sense. The traces of Jewish art are hardly worthy of notice, and the general impression produced is that their constructions were neither magnificent in proportions or design, nor durable in materials. The various rock-cut cemeteries, and traces of ancient cultivation, are almost the only undoubtedly Jewish remains in the country excepting the synagogues first discovered and described by Major Wilson.

The interest of the country from a Biblical point of view consists in the identification of sites from etymological and literary argument. Amongst the interesting identifications made by the survey party may be mentioned the altar 'Ad, already referred to, the site of Ænon where St. John baptized, Zaretan in the Jordan valley, Gilgal—a confirmation rather than a discovery, the hill Scopus, north of Jerusalem, and amongst the less definitely indicated in Scripture, the Rock Oreb and winepress of Zeeb, mentioned in the book of Judges, the probable tomb of Samson, with the sites of the town of Archelais, Ecbatana, and Sorau, and a number of obscure Biblical names interesting as fixing the boundaries of the various tribes.

Passing from this period to that of the Roman occupation of Palestine, the ruins become far more numerous and important; they include fine roads, long aqueducts, temples, theatres, race courses, and city walls. Among the principal sites are Cæsarea, Ecbatana, Antipatris, Jericho, Scythopolis, Tantura, Sebaste, and a host of minor places of interest. All that remains above ground has been noted and sketched, measured and planned. At Cæsarea the temple built by Herod and dedicated to Augustus was discovered close to the Crusading Cathedral. To this group belongs the newly discovered town of Deir Serúr, probably the ancient Sozuza. Its fallen tower blocks, some 10ft. in length, its fine round arches, its semi-classic mouldings, its walls of finely drafted masonry, and the great synagogue or temple, with tesselated floor and walls 8ft. thick, all point to this ruin as a place of no little importance. To this same period also belong several groups of finely ornamented rock-tombs of semi-classic Greek character, mostly new discoveries, and resembling closely those already well-known at Jerusalem. Many buildings also, like those at Jebel Fureidis (the Ancient Herodium) are now for the first time thoroughly explored, and properly planned, although they have been known for a considerable time, among which may be enumerated the tomb of Joshua at Timnath, a site of no common interest, and perhaps one of the best authenticated identifications yet made in the country.

The next step brings us to the early Christian times, for of the troublous period after the destruction of Jerusalem, there are scarce any topographical indications, unless we except the site of Bether. This strong and almost impregnable site, where, under Barcochebas, the Jews made their last stand in revolt, is the modern Bittér, and close to it, in a natural fortress, are ruins which still keep the name (as discovered independently by Captain Warren, and afterwards by myself) of Khirbet el Yahúd, Ruin of the Jews, a traditional title, for which no reason is now assigned by the natives.

The great building ages of Justinian and the Crusaders have left many noble monuments throughout Palestine. Amongst the principal works of the first period may be mentioned the two great convents of St. John, on Jordan, and of the traditional Gilgal, erected in the Jordan valley, and never before planned. In the wild hill country of Judæa we also discovered another fine ruin, known as Deir Kal'aah, the Convent Castle. The details of its architecture are of extreme interest, as throwing light on the disputed question of the date of that style which is found not far away in the Jerusalem Golden Gate. Five convents in all were here discovered at no great distance apart in a district previously almost altogether unknown.

The Crusading works occur in every part of Palestine, and are invariably magnificent. The finest ruins, however, are at Athlit, the Castel Pelegrino, where first the pilgrims of the 12th century touched the soil of the Holy Land. Its magnificent masses of masonry, its strong bastioned walls, its great vaults, running the whole length of the town, with groined roofs and sculptured capitals, show the splendour which it must have displayed in its palmy days. The work has more than once been taken for Phœnician masonry, and curiously enough in the neighbourhood is the only Phœnician tomb we have yet seen in the country, but the pointed arches and other details of architecture leave no doubt as to the origin of the town.

From this landing-place a chain of forts leads across Carmel to Nazareth, and south to Ramleh and Jerusalem. Wherever an important military position is to be found throughout Palestine a Crusading castle will also be found. The workmanship of its outer walls, large, strong, and well cut, of hard limestone or harder basalt, and the details of its interior, remarkable for beauty and finish in the stonework, the places of the old portcullises, the secret posterns, the winding turret-stairs, the groined roofs, the chimneys, and sculptured niches, are all of interest to the architect. The knowledge of art and skill in choice of good material, both attest the cultivation of the builders. The numerous churches, with even finer finished stonework, frescoes, &c., rude graphitæ, walls thick enough for a castle, and capitals of florid execution, are still more worthy of study. Of one of these, the great church at Ramleh, now a mosque, I am, I believe, the first to have made a plan, and no church yet seen in Palestine exceeds it in size or workmanship.

Last in order come the Saracenic works, fortresses and khans, mosques

and minarets. They are distinguished by the smaller size of the masonry, by the different form of the arches, and by a peculiar cement, harder even than the stone, and found in no other work in the country. In many instances Saracenic additions to Crusading work are noticeable, and in some few it is difficult to know to which era to ascribe the work.

It will be seen, therefore, that we have added something of interest to what was already known on archæological questions in Palestine from the earliest to the latest period of its history. A glance at our lists enables us to say what exists at any spot marked on the map, and to give a fair estimate of the antiquity and importance of the remains, which can often be dated by comparison with examples of known periods.

In conclusion I would point out the observations made with regard to the physical character of the country, and especially as regards the main features of its geology.

The comparison of ancient and modern physical characteristics of the country, both as regards the natural features and in respect to the cultivation of the land, will be one of the most interesting outcoming results of the survey.

For data as regards climate, we have now four meteorological stations established in the country, where barometrical and thermometrical observations are taken daily with great regularity; the first at Jerusalem, the second at Nazareth, both in the hill country, the third at Jaffa on the sea-coast, the fourth at Gaza in the plain. In addition to which, we carry with us in camp a full set of meteorological instruments, a mercurial barometer, wet and dry bulb, maximum and minimum, a minimum ground, and a black bulb-thermometer. With these also are a rain gauge and a set of ozone papers. Many of the observations are interesting. It is found that with the east or khamsin wind—a most trying and depressing weather—there is an entire absence of ozone in the air. We notice also that mirage is not dependent on heat alone, but requires a certain amount of moisture to develop it fully. The barometric observations in the Jordan valley are very curious; the rise and fall of the instrument appeared to have no reference to the storms which we experienced, whereas in the hills the barometer is a safe guide.

The comparison of the rainfall and seasons with those of ancient historical times will, therefore, be obtained with great accuracy.

In addition to this we are able to show for the first time on the map the condition of the country as regards vegetation; gardens, orchards, and oliveyards are marked, as are also the districts covered with thickets or *hish*, which on the western slopes are very extensive. The map shows also the Forest of Sharon, hitherto unknown, and consisting only in stumps of felled oak trees towards the south, whilst in the northern part of the plain the trees still extend over the country for miles. The palm trees of the Jordan valley, mentioned as late as the 7th century, have disappeared from Jericho, but in the northern basin, near the site of Scythopolis, we found a great number of stunted trees, many of which have individual names.

The general result to which the work seems to point is, that in the seasons, rainfall, and natural vegetation, modern Palestine resembles very closely that of Biblical times. There is, however, a very marked change in its cultivation, and the extent of the ancient fertility will be approximated, it is hoped, when the map is complete.

The ancient cisterns, pools, aqueducts, and methods of water supply and irrigation, are all carefully marked on the map, and their date—Jewish, Roman, Christian, or Saracenic—is generally pretty easy to determine. The terraces, wine and oil presses, vineyard walls, and dry-stone towers, which appear to be of great antiquity, are carefully noted. Signs of ancient cultivation are often observable in the wildest of the present thickets, and there is no doubt that the vine, now almost unknown, was once cultivated throughout the whole hill country of Palestine and along the edge of the plains.

Not less important is the study of the geology of Palestine. As a contribution to what is already known, I have prepared a sketch map, showing the main divisions of the strata, and in the more interesting parts the boundaries have been carefully determined. This map will form a sort of reconnaissance, from which a professional geologist may advance to the study of details, and by the use of which much time and trouble may be saved. The special observations of dip and lithological character throughout the part of country surveyed amount now to nearly 200. No such general description of the geology has, I believe, been as yet made. The most famous work on the subject is that by M. Lartet, the French geologist. The study he has given to the part of Palestine which he visited personally is minute and accurate, but his map, which in many parts is an absolute blank, in others is disfigured by false conclusions, drawn apparently from hearsay evidence.

The main results of the geological survey at present may be enumerated as follows:—

In the north we have been able to show the geological construction of the plain of Esdraelon, and have discovered an important volcanic centre and upwards of forty basaltic outbreaks hitherto quite unknown. We have marked the extent of country covered by black basalt south of the Sea of Galilee never as yet shown. The trappean outbreak on Carmel has also been carefully examined and sections made of its formation, with observations of the dip of the strata, which are very curious. South-west of the mountain we found a tertiary volcanic lake, and traced the outbreaks along the west as far south as Jaffa. The map shows the upheaval of the coast-line, and by fossils obtained along this formation it will be possible to fix the geological data. Three or four interesting sections are now extended across the country, as in the latitude of Nablus, where the nummulitic limestone is found on the upper part of Ebal and Gerizim, and in the line of Jerusalem and of Nazareth.

The most valuable observations are, however, those which refer to the depression of the Jordan valley, and I may, perhaps, be permitted to enlarge rather more fully upon these.

The western shore of the Dead Sea is bounded by steep, precipitous cliffs, at the feet of which are marls and conglomerates belonging to an ancient sea-level. At the top of the cliffs are other marls of a similar character, giving a second level, and from these the marl hills rise rapidly to a third level, that of the Bukeya, or raised plain, situate at the feet of the main chain of hills and below the convent of Mar Saba. This gives a series of three successive steps, each of which seems at some period to have formed the bed of a lake under conditions similar to that of the present sea. There is, however, a very curious feature observable, the narrow valley running north and south and separating a line of chalk cliffs immediately adjoining the Bukeya from the hard dolomite beds of the main chain. It is, in fact, evidence of a fault or sudden fold in the strata, the existence of which seems to have been hitherto unsuspected.

Advancing north we find a broad basin north of the Dead Sea in which Jericho stands, and which has an exact counterpart on the east side of the valley. The same contortion of the strata is remarkable, and the higher level is occupied by beds of a reddish marl, and of the famous stinkstone or bituminous limestone, evidence that at this early geological period the lake existed under conditions similar to those of the present Dead Sea.

From this point we succeed in tracing an ancient shore line at a level equal to the second step for a distance of over twenty miles up the valley. From thence a narrow gorge with strata less violently contorted extends for some ten miles. The valley then broadens again, and the shore deposits and red marl reappear and extend along the side of the upper basin south of the Sea of Galilee.

I have submitted these observations to professional geologists, and their opinion confirms that which I formed on the spot—that the Jordan valley was caused by a sudden and probably violent depression in times subsequent to the late cretaceous period; that it presented at first a chain of great lakes, and that no less than three levels for these lakes are to be found, the area of the most ancient being the greatest; that the effects of denudation or other natural causes working gradually have continued since the time of the first great depression to lower the level, and that the evaporation increasing with the increased temperature the area of the lakes has also diminished. Finally, that the same action is in all probability still slowly proceeding, as evidenced by changes in the depth of water in the Dead Sea during modern times.

I have endeavoured to show briefly the method and results of our work—physical, antiquarian, and geographical. Much of interest yet remains if health and means do not fail us. The plains of Philistia, the southern shores of the Dead Sea, the numerous ruins of southern Judah, have yet to be explored. In the north, Phœnicia still is unvisited, with its ruins, inscriptions, and natural subjects of interest, including the newly found mines of Saida. The Sea of Galilee and the mountain of Safed, where synagogues and ruined towns as yet unknown are reported

by travellers, still demands patient research. I hope, however, that if our future success be equal to that we have already obtained, we shall be able by the summer of 1876 to commence the publication of the Ordnance Survey of Palestine as completed from Dan to Beersheba.

CLAUDE R. CONDER, Lieut., R.E.,
In Command Survey of Palestine.

14*th July*, 1874.

THE JERUSALEM RESEARCHES.

LETTERS FROM M. CLERMONT-GANNEAU.

XI.

JERUSALEM, *May* 31, 1874.

I HAVE just rediscovered, within the Haram, an inscription of some importance, pointed out by several Mussulman authors. Up to the present time we have not been able to establish its existence: it is a stone on which are inscribed the dimensions of the Haram measured at a very ancient period.

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The Arab chronicler of Jerusalem, Medjr ed Din (p. 29 of the text edited at Boulaq), after having recorded that Hafiz ibr Asakir assigns to the Haram 755 royal cubits of length and 465 cubits of breadth, quotes this passage of one of his predecessors, the author of the *Muthir el Ghoram*, from which he repeatedly borrows:—"I saw, a long time ago, in the north wall, above the door adjacent to the Bab ed Douidariyé, inside the surrounding wall, a slab on which are inscribed the length and breadth of the Haram. These measurements do not agree with what we have stated above. It is there said that the length is 784 cubits, and the breadth 455; the nature of the cubit is specified, but I was not able to see if it was the cubit mentioned above, or another, on account of the writing being injured."

The Persian Hadji, Nasir ibn Khosrou, who came on pilgrimage in the year 438 (A.H.), and consequently before the Crusades, saw this slab also. "On the northern side, which is contiguous to the Dome of Yakub (on whom be peace!), I observed an inscription on a tablet, to the effect that the Mosque was 704 yards long and 455 yards by the 'malak' (measure)."—*Major Fuller's translation.*

This inscription I have just found by accident fitted into the wall of one of the many Arab *Médrésés* which adjoin the northern face of the Haram; it is immediately to the right, coming out of the *Bab el Almé*, which seems to correspond to the "*Bab ed Douidariyé*" of the

ancient account. In order to see it, you must mount the steps of a stair leading to the upper floor of the *Médrésé*. The stone is of hard *mezzeh*, and the writing *neshky*, carelessly traced. It is composed of four lines separated by four horizontal strokes; the first being broken, with nothing on it but the traditional invocation, "*Bismillah er rahman er râhim*." After this I read, without much difficulty, as follows:—"The length of the Mesjid is seven hundred . . . . and four cubits, and its breadth is four hundred, fifty, and five cubits, the cubit of . . . ."

The length is broken off in the tens, but we cannot hesitate between thirty (*thalathin*), and eighty (*thamanin*): according to the author of the *Muthir el Ghoram*, the last number would be the true one. Nasir seems as well to have been embarrassed in the reading of the last number, and to have omitted altogether the doubtful number of tens. The last word, containing the designation of the kind of cubit, is hard to make out; it was also hard in the time of the author of the *Muthir el Ghoram*. Nasir does not hesitate to write the word *Malak* (of the king), but the appearance of the original makes me doubt the exactness of this reading.

Now that we are on this point, which is not without interest, let me notice further that the author of the *Muthir el Ghoram* gives as dimensions of the Haram, measured by the line, in his time, 683 cubits for the length of the east side, and 650 cubits for that of the west; the breadth, taken outside the surrounding wall, being estimated at 483 cubits.

In another passage (p. 377) Medjr ed Din also gives us the result of his personal observations on this point. He measured the Haram with a cord twice over, and found for the length, north to south, from the Mihrab of David to the *Bab el esbat* (not counting the walls), 660 cubits (the common cubit), and for the breadth, between the cemetery of *Bab er rahmé* and the *Médrésé* of Tenguiz, 406 cubits.

We have now before us very different figures and divergences, the more difficult to harmonise because they spring from the differences in the cubit employed; further difficulties are the manner and points of measurement, and the broken condition of the inscription quoted; all perhaps evincing, which would be of interest to us, real variation in the extent of the Haram at certain epochs in the Mussulman rule.

osaics in
e exterior
cades of
e Sakhra.

I have already informed you [in a private letter] of the existence of mosaics within the arcades of the outer wall of the Sakhra. It results from this fact that between the period when these arcades were opened and when they were completely covered by the fayence tiles now placed on them, they passed through an intermediary stage; that is, they were built up and transformed into little niches, the interior walls of which received a rich ornamentation of mosaics in coloured and gilt glass. If, as I have said before, these arcades were open and formed a part of the gallery in existence at the time of the Crusades, we must admit that this transformation is later than the Crusades, and the

addition of the mosaics to be the work of the Arabs, perhaps that of Saladin.*

We know that Saladin must have subjected the Sakhra to many changes in order to efface the traces of Christian worship which had made the Mussulman sanctuary the *Templum Domini*. These mosaics are good enough, in colour and design, to belong to such a date. Thanks to the kindness of the Memour, who uncovered a second arcade next to the first, I ascertained that each arch had received the same ornamentation. The mosaics had disappeared from this arch, leaving marks in the casing to prove where they had been placed. M. Lecomte made a careful study of these mosaics, shattered as they were, and has succeeded in restoring the principal subject of the decoration in accordance with the position of the colours. You will receive, if not by this mail, at least by the next, the result of this restoration. By the intersection of the pattern, crosses are formed, to which I think it would be difficult to assign anything beyond a geometrical origin and value.

The presence, duly ascertained, of mosaics outside the Sakhra, is a fact of much interest in the history of this building, because it had been often doubted, in spite of the formal affirmation of the ancient descriptions. From John de Wirzburg to Medjr ed Din, all authors agree in saying that the Sakhra was adorned with mosaics inside and outside. The last trace of this system of decoration has disappeared from the inside, since the general application of the fayence—that is to say, since the 16th century.

Exposu the dru the Sak

At the present moment they are proceeding to the repair of the inclined roof which covers the lower sides of the Sakhra. In the progress of this work the lead is being removed, so that it is now possible to penetrate to the interior of the framework, and to see the whole central drum exposed from the ceiling to the springing of the roof. We can thus examine at our ease the whole external face of the drum. We have been enabled to ascertain the total absence of the mediæval dressing in the materials used in the work. There is only one block in one of the buttresses which bears a trace of it. The materials in the buttresses differ in general from those of the drum itself. They are large, and show a dressing worked with a point, which I think is ancient. It is found on several large blocks which are visible in certain parts of the Haram, which I believe to have been utilised by the Arabs.

We have only found one mason's mark on all the stones examined. It is quite of the same kind as that which we have noted in the exterior outspread wall.

Vessel basalt.

We have found in a magazine close to El Aksa a fragment of a magnificent vessel in basalt, with a bluish tinge and a very close

* Medjr ed Din says (p. 434) that Al Mostanser Billah came to Jerusalem in 861-2, A.D., and *renewed the mosaics* of the Sakhra above the marble of the exterior.

grain. Sarcophagus or bath, this vessel, the fabrication of which must have been extremely costly on account of the beauty and the hardness of the material, must have been ordered for some great personage or some important use. The sides are not vertical, but widened out like those of a bath. The vessel increases 0·57 metre in depth, and 0·81 in length. The thickness of the sides is 0·11 metre, and the longest part preserved is 1·19 metres. At the end is an opening, perhaps made more recently to let the water flow easily.

abaon, bal, Geri- m, Her- on, laced near ericho by he legend.

You will remember the Bedouin legend which I have already noted as referring to the tradition of Joshua stopping the sun at Jericho. The alterations of this kind in the history of Joshua are very ancient. We find very early this tendency to group round Jericho the places which hold the chief place in the history of the successor of Moses. Thus it is that we find Procopius, Eusebius, and Jerome, saying that Mounts Ebal and Gerizim, claimed later at Samaria by the Samaritans, are in reality not far from Gilgal. It seems that this grouping took place earlier than the Christian writers whom I have cited, and that they borrowed their theories from the Jews, who maintained them out of hatred to the Samaritans.

The transference of the miracle of Gibeon seems to belong to the same epoch, if not to have been determined by the same cause. In any case it is expressly indicated by the Russian Patriarch Daniel, who says (p. 56), "To the west of this convent (of the Archangel Michael at Gilgal) is a fountain called Gibeon. It is lofty and very great. It is above this mountain that the sun stood still for half a day, until Joshua had overcome his enemies when he fought against Og, King of Bashan, and Sihon, King of the Amorites, and all the land of Canaan. When Joshua had overcome them, the sun went down behind the mountain of Gibeon. We see a great cavern in this mountain. Here it is that our Lord Jesus Christ fasted forty days and forty nights, and, when he was a hungered, the devil drew near to him." So that the mount of Joshua, when pointed out, is the mountain of Gibeon.

Not only Ebal, Gerizim, and Gibeon have been transported to Jericho, Hermon has also shared the same lot. The Onomasticon, Antoninus, St. John of Damascus, and a number of pilgrims, agree in placing the Hill of Hermon near the Jordan, not far from Jericho.

he vase of ezetha.

The excavations I had undertaken in the caves of the Via Dolorosa, and of which I shall give you an account presently, have led, among other things, to a discovery of great value.

In the deepest of the newly found rock-cut chambers I have explored, and under the great pieces of broken ceiling which testify to some great destruction on this spot, we found a large terra-cotta vase, which we could only bring away in pieces. Fortunately the vase, although broken, is so nearly complete, that it has been possible to reconstruct it by gumming the pieces together. You will find enclosed two photographs, pending the arrival of the original.

This cup is in terra-cotta, very hard, and of a grey colour. It

measures 0·36 metre (nearly 14 inches) high; it is mounted on a low foot of simple design, and is very capacious, with a maximum circumference of one metre. It has no neck, the opening being very small, with a little collar 0·235 metre in diameter. It is ornamented by two handles, each formed of a double tress elegantly twisted. On the upper part of each handle is cut a small rectangular cavity, towards which two large serpents appear to be turning as if to drink. They are in relief, symmetrically disposed, and climbing along the sides of the vessel; their tails are lost in the base of the handles. Immediately below each handle is sculptured in relief a Gorgon's head.

Further, close to either handle is twice impressed a kind of small medallion, representing a male figure, nude, upright, the left arm raised and leaning on a long lance or thyrsus; the right arm extended and pointed to the ground. The right hand appears to hold an indistinct object over another also indistinct placed upon the ground.

The external mouldings of this little figure, of which I shall speak presently, are repeated six times on one vase.

At nearly equal distances from the two handles, and on each side of the vase, is repeated twice a second moulded medallion of larger dimensions, representing a naked Mercury, whose body is seen in full, the head turned to the left. He has the petasus, and has his tunic tied across the breast and thrown behind him; he holds the caduceus in his left hand, and raises with his right an object which seems to be a purse—the frequent attribute of the Hermes of antiquity.

In the circle which surrounds him are four objects, which appear to be meant for fir-cones. The medallion is encircled by a small border, formed by means of a moulded repetition of six points arranged in a circle round a seventh central point. This ornament is reproduced in profusion on the rest of the vase.

On one of the two nearly symmetrical segments into which the vase is divided by the handles, the medallion of Mercury is flanked on the left by the small medallion previously described, and to the right by a symbolic group which demands a description by itself. Under a sort of portico, divided into three by four little fluted columns, is seen in the central intercolumniation a vessel with two handles, the mouth very wide. In the left-hand intercolumniation is an altar, lofty, narrow, and fluted, reminding one of the Assyrian altars, surmounted by eight little spheres disposed in form of a pyramid. In the right-hand intercolumniation is a second altar the same as the first, but with a few essential variations. The number of spheres is only seven, and a rectangular tablet is fixed in the altar at its middle.

Immediately below the porch, and corresponding with the three intercolumniations, is stamped in relief a group of three little figures representing a feminine personage, draped, the left hand supported by a long spear, the right hand directed towards the ground and holding some undetermined object. Thus these figures appear to be the repetition of the same *ektypon*, reproduced again twice, but singly on this

side of the vessel. The altar on the right is also repeated once by itself.

I must lastly mention, in concluding this segment of the vase, a large leaf, with its branches in high relief, stamped beside one of the serpents.

If we pass to the opposite segment, we find the same elements arranged in nearly the same way; but we notice that the little figure, three times repeated, is not grouped as in the other part of the vase, that the vase between two columns is reproduced apart, and that the altar on the left, but not on the right, is repeated by itself.

The lower half of the vase is decorated by two borders, formed by concentric semicircles with seven extremities. This type, reminding one of the seven-branched candlestick, appears several times in the upper part. Below is a third circle, formed by the juxtaposition of a lozenge. Below this again, the same type grouped in triangles, the point of which is prolonged to the foot, completes the decoration.

I forgot to say that the collar of the vessel is adorned with five or six parallel lines of small mouldings, made freely but not without taste.

One curious matter of detail is that the whole surface of the vase, especially in the places covered with mouldings, is thickly set with little holes made before the baking by the print of a sharp chisel or a knife. This cannot be the result of an accident. On the other hand, there must have been some serious motive in covering the mouldings with holes which spoil the figures. Perhaps it was to assist the baking.

This great vase, so rich in ornamentation, is nevertheless executed with a certain amount of negligence Its form is elegant, but it wants symmetry and is not perpendicular; the handles are put on awkwardly; and the details of the mouldings show carelessness. All round it may be seen the marks of the fingers which repaired the accidents produced in removing the mould. The arrangement of the figures and the symbols seems done by chance and without rigorous method. Nevertheless, such as it is, this vessel, with all its imperfections, is most remarkable from an artistic point of view.

The profuseness in detail and the carelessness in execution, lead me to think that it is a kind of specimen, the essay of some artist wishing to make a model, which he might subsequently reproduce with greater care, perhaps in metal.

This is the place to record that we found, beside the vase, two fragments of terra-cotta, which did not form part of the vase, as the colour and form show, but which present striking analogies with it. We observe in the two fragments, which fit together, the same mouldings in the upper part; a Gorgon mark like that on the large vase, but of less dimensions; the same element of ornamentation in the concentric semicircles; and an absolute reproduction, probably obtained from the same mould, of the little male figure leaning on a spear. A hollow impress of palm leaves completes the decoration.

The juxtaposition of these two similar vases seems to indicate the presence of a local manufactory rather than the result of an importation, as we might be tempted to suppose, when we reflect how sterile Jerusalem appears to us at the present time from an artistic point of view. We know that in imperial days they still made at Arretino vessels in red clay, with ornaments and figures in relief, cast in moulds, and consequently very different from the ornamentation of the Greek vases of the old style, which were modelled by the hand alone.

After the description of the vase, it only remains for us to determine its date, its use, and the symbolic signification of its complicated decoration.

If we take into account the place where we found it, and consequently the history of Jerusalem, we are inclined to attribute the vase to the Roman period; that is to say, to see in it an object belonging to Ælia Capitolina. The fabrication and style accord very well with this hypothesis.

The general form of the vase and the disposition of the mouth appear to imply the existence of a lid similarly ornamented, which has disappeared. To judge by the breadth of the mouth and the stability of the foot, the vase departs from the type of the amphora, and belongs to the category of vessels from which water was drawn, not poured out. It belongs, in fact, to the κρατῆρ class, although the handles are a little too highly placed for the classic κρατῆρ, whose handles, generally above the vase, are more often destined to move than to carry the vessel.

The vases might have had a religious or simply a domestic use; that is, to serve as libations offered to the gods, or to be employed at ordinary repasts. In both cases mixed liquids, generally water and wine, were drawn by means of the *simpulum* or the *cyathus*—a kind of long-handled spoon which served to fill the cups. Even when the κρατῆρ was only destined for profane use, it preserved a religious character. It was the custom, in banquets of ceremony, to have three vessels of different shapes. The first, according to Suidas, dedicated to Mercury, the second to Charisius, and the third to Jupiter the Etruscan. According to others, the first cup (some say the third) was consecrated to the food deity (Ἀγαθοδάιμων). Three make the cup of Health. One cup bore in its decoration all the signs of a religious vase, and I am tempted to believe that it was destined for sacrificial libations, these vessels being, as a rule, not only dedicated to divinities (as ἀναθήματα), but employed for them as in the communion service.

The four serpents which are proceeding to drink out of the receptacle hollowed for them in the handles the drops which have escaped from the *simpulum*, appear to represent the *genii loci*, and remind me of the serpentine form of the Ἀγαθοδάιμων, to which in so many ancient monuments libations are offered.

The Mercury twice repeated recalls the cup consecrated to Hermes. In this case, might the fragment be a piece of the second vase?

The little male figure six times repeated on the great vase, and for a seventh time on the fragment, is not easy to make out. It is singularly like the Bacchus which appears in the coins of Ælia Capitolina, notably on those struck during the reigns of Antoninus and Gordian III. If this figure be an imitation of the numismatic type, the uncertain gesture of one figure may be that of the right hand holding a bunch of grapes to a panther upright or sitting down. If necessary it may be regarded as a hand letting the wine flow from a *carchesium*.

In any case, the presence of Bacchus is not at all strange on a vase destined to contain wine. Is it the Charisius of Suidas? The pine-cones which surround the Mercury might perhaps be better for the Dionysiac attributes.

As to the female figure, I avow my inability to explain it at present; but I doubt not that European archæologists will succeed in making it out. Can it be Hygeia?

The presence of the vase and the two altars grouped under the same porch completes the religious aspect of one vase. We must note that the vessel in the ornamentation is of a type very different from that of the vase itself. The existence of the two altars and the curious form they possess are points of the highest interest. The number of spheres contained in the cavity of each altar is not indifferent. Whatever be the nature of the objects represented, it is certain that the number seven in the first case recalls the cosmic conception of antiquity of five planets, together with the sun and the moon; the number eight in the other case is that conception together with the eighth element, Phœnician *echmour*, which represents the seven all together. I do not insist on this symbolic value of the numbers. I confine myself to remarking the employment of seven points disposed in a circle, six round a seventh, and the seven extremities of concentric semicircles.

We may ask again how it happens that this vase and the similar fragment have been picked up in such a place, that is to say, in the rock-cut chambers. It is very improbable that the vases have been met with in their original place, that is to say, in a sepulchral cave. The *débris* of all kinds with which we found them mixed up would rather make me suppose that they have been thrown at some remote period into these caverns pell-mell with refuse. If they ever served for sacrifices offered by the pagans of Ælia Capitolina at the Sanctuary of Jupiter, which stood not far off, it is very easy to understand how, at the official triumph of Christianity, these vessels of a proscribed worship would be ignominiously thrown away with the most vile rubbish. If that is so, the earthquake which destroyed the caverns took place after the religious reaction.

Whatever opinion be adopted as to these difficult questions, the vase, which I propose to call the Vase of Bezetha, remains one of the most precious archæological objects that Jerusalem has yet produced; and I

do not doubt that the interest it will excite among *savants* will equal the curiosity that it will excite among the public.

C. CLERMONT-GANNEAU.

P.S.—Capital in the Haram-esh-Shereef representing the Presentation of Christ.

MM. Palmer and Drake during their first journey to Jerusalem remarked and pointed out to me on the minaret at the north-west angle of the Haram a marble capital with mutilated figures. We went to see this interesting relic, and I send you a drawing of it by Lecomte. Although the heads have been broken by Mussulman iconoclasts, it is not difficult to make out the scene portrayed. On the left the old man Simeon receives the infant Jesus from the hands of the Virgin enveloped in swaddling clothes; on the right is also a personage round whose head is a nimbus, who seems to be St. Joseph. The same subject appears to have been treated in the three capitals placed in the same minaret, but the other two have been a great deal more broken. Not only the capitals, but also the columns and the bases which support them, seem to have made a single whole. The three capitals were cut so as to be placed between two walls at right angles. I think that it is easy to divine whence they came. Phocas, describing the *Templum Domini* (the Sakhra) of the Crusaders, says that in the interior, opposite to the cave, there are two little chapels or chambers (καμαραι), in which are represented, in one, "the meeting (ὑπάντη) of the Lord Christ, for it is here that Simeon received him in his arms;" in the other, the vision of Jacob. It is highly probable that we have in these two capitals the fragments taken from the chapels after the restoration of the *Templum* to the Mussulmans by Salahdin. The sacerdotal costume worn by Simeon is extremely interesting.

XII.

Tomb and portrait of Crusading Bishop of Palestine, contemporary with St. Louis.

The period of the Crusades is no exception to the extreme poverty of inscriptions which appears to be the peculiar character of Palestine. Written traces of the western rule in the Holy Land are of the greatest rarity. During all the years that I have hunted for inscriptions in this ungrateful soil I have met but five or six texts belonging to the period, and even they were for the most part fragmentary.

It is a fact which at first seems the more singular because the period is comparatively but little removed from us, and because the passage of the Occidentals, although rapid, has left a broad and deep impress upon the architecture of Palestine. I have elsewhere established technical and invariable rules which enable us at first sight and without any possible error to determine any stone cut by the Crusaders. The application of this law—much more certain than the observation, so delicate and so much disputed, of styles, and which permits us to determine the

date of monuments not only taken as a whole, but in their elements, to number up, so to speak, the materials employed by the hands of the Westerns—has demonstrated the prodigious movement of construction which took place during this brief period. It is natural, then, to think that the men who knew how to use stone would not have neglected to confide to it the written record of their memorable deeds.

This almost total absence of mediæval European inscriptions can only be explained by a pitiless reaction against everything which could recall a conquest odious to the Mussulmans, and a yoke borne with impatience by even Oriental Christians.

Therefore the discovery of a Crusading text even mutilated, on the very soil, is always a piece of good fortune for science. In our last excursion to Jaffa I found two. The first (drawn by M. Lecomte, No. 48), engraved in large and splendid letters on a fine block of white marble (0·77 + 0·27 + 0·19 metres), consists of two lines, of which only the middle one remains, and traces of a third line.

. . er : augustus : io . .
[. . . anno domin]ice incarnatio[nis]
[ti] .

I put between brackets the restorations which seem probable. I think that of *anno dominice incarnationis* will be admitted without difficulty. This manner of dating the year of the incarnation of the Lord, and the way of writing *dominice* (æ), are found in a number of the charters of the kingdom of Jerusalem in the eleventh and twelfth centuries (E. de Rozière, Cartulaire du St. Sepulcre).

The palæographic aspect of the letters, especially that of the T, tends also, if my memory serves me, to attach this inscription to the twelfth century.

The second inscription, which I brought from Jaffa (No. 49 in M. Lecomte's sketches), is much more interesting, first, because it accompanies a very curious iconographic monument; and secondly, because it offers great chronological precision. It comes from a Mussulman wely called Sheikh Mourad, and situated about 20 minutes W.N.W. of Jaffa.

This precious monument—it is only a fragment—consists of a slab of white marble measuring actually 0·70 metre in length, by 0·55 in height and 0·05 in thickness. The fragment is broken into two pieces, which fit each other exactly.

Here is portrayed a personage, full face, with a sharp beard, and mitre for head-dress, and holding the episcopal crozier; and its position, hard to the left, shows that we have to do with a bishop and not a mitred abbot.

The head and the shoulders are surrounded by a trilobe resting on a little column with a capital. In the corner to the right of the trilobe is represented an incense-bearing angel, with a nimbus and wing, who censes the head of the bishop. This detail is excellent in its movement.

The general drawing is remarkable for its primness and precision; it recalls at first sight the style of the thirteenth century, and everything, as we shall see, justifies this impression.

We have here one of those flat tombs which were placed on a level with the ground, and which are so numerous at this period.

I would willingly believe that the slab was not only engraved, but also inlaid; the drawing, deep and narrow, with vertical strokes, was probably destined to receive some hard and coloured matter; we remark, besides, in the mitre and the crozier, deep holes, in which may have been inlaid enamels or glass to imitate precious stones.

The mitre is rather higher than those which we see on monuments of the twelfth century.

The pastoral staff terminates with the head of an animal; it was meant to be carried in the left hand; the right, which has disappeared, is occupied, in most similar monuments, in giving the benediction.

There only remains of this slab a piece comprising the left half of the face to the springing of the shoulders. All round it ran a Latin inscription in mediæval characters forming a frame. A few words only remain, which I will examine immediately.

The back of the slab has also received a later inscription in Arabic, of which this is the translation:—

"In the name of God, merciful and clement. Certainly he restores the mosques of God who believes in God and in the day of the Resurrection, who makes prayer, who gives alms, and who only fears God; perhaps he will be [in the number of those who follow the paths of goodness]. The construction of this blessed mosque has been ordered by him who was poor before the Most High God, the Emir Jemal-ed-dîn, the son of Isheîk, whom God have in his mercy. The year seven hundred, thirty-six . . . ."

This inscription was written on the back of the other, the first part of which is borrowed from the ninth sonnate of the Koran (v. 18). The poem called "On Repentance" is disposed in such a fashion as to show that the slab was cut up into five or six pieces in the year 736 of the Hegira (A.D. 1335). They cut in the original slab a piece nearly square, on the reverse of which the Arab inscription was cut. This slab subsequently underwent a slight mutilation, which took off the lower left angle with a part of the face and breast of one side, and the first words of the new inscription on the other. We know from historians, and also from an authentic inscription of Bibars, preserved at Ramleh, the exact date of the definitive expulsion of the Francs from Jaffa: it was, according to William of Tyre, the seventh of March, 1268, in *Redjeb*, 666, according to the Mussulman authorities. Our monument could not, therefore, *à priori*, be later than this, which, taking it in a minimum limit, brings us to the middle of the thirteenth century.

We come next, having arrived at a historical limit of time, to the interpretation of the inscription, or rather the fragment of Latin

inscription which ran round the slab. I read it, with restorations in brackets:—

[Anno millesim]o: C°.C.: quiqhagesimo: octavo: in festo: sanctorum: o [mnium ?.]

If we regret the loss of the Bishop's name, we have at least the satisfaction of possessing almost entire the part which probably contains the date of his death.

The day is specified by the words *in festo sanctorum;* as for the next word, I am not certain whether it begins with an *o* or a *c*: in the former case *omnium* must be indicated: it will be the day of All Saints.

The preceding words contain the year; it is impossible to mistake *quinquagesimo sexto* in spite of the orthographic irregularity. C°.C. is for *ducentesimo*. There remains the *millesimo*, of which the *o* remains, with the broken *m* preceding it.

The date is therefore 1255, probably the day of All Saints. The text is unhappily too much destroyed to inform us who the personage was.

In the absence of certain indications these hypotheses are possible:—

1. The slab may have been, like so much building material, transported to Jaffa from some other neighbouring city, Ain, for example, the site of a bishopric.

2. It may have covered the remains of a bishop of some other diocese who died at Jaffa during the French occupation.

3. It may belong to a bishop of Jaffa.

In the two first cases all conjecture at the exact truth would be without foundation; we have only two positive elements of solution, the date of the death and the rank of the deceased, which are insufficient, at least with the sources of information which I possess here. I have, in fact, vainly searched through the *Oriens Christianus* of Lequien, and the *Familles d'Outre Mer* of Ducange, for the name of a Latin bishop, archbishop, abbot, or prior, who died in Palestine in 1255.

The third hypothesis, which, until proof to the contrary, rests the most probable, deserves a few moments' consideration, especially as it raises a curious historical question—that is, whether there was or was not a bishopric at Jaffa during the Crusades.

Before the arrival of the Franks, Joppa, an important centre, and a town of special veneration, as having been the sojourning place of St. Peter, was an episcopal seat; we know that certainly, and know also the names of several of its bishops: Fidus, Theodotus, Elias, Sergius.

Under the Crusaders it appears, at least at first, to have lost this rank, for it does not figure in the list of Latin bishopries as they are preserved in the contemporary documents. Jacques de Vitry, Bishop of Aire in 1216, says expressly in his history of Jerusalem, that the city of Jaffa had no bishop, but was under the immediate jurisdiction of the priest and canons of the Holy Sepulchre. He adds that it was also the case with Nablus, which was similarly without a bishop, and belonging to the abbey of the *Seraphim* Domini. He remarks, *àpropos*, that many other cities of Palestine, ancient episcopal seats, Greek and Syrian, are

in the same situation, and have been united by the Franks to other bishoprics.

But Lequien says that, notwithstanding this statement, after the date of Jacques de Vitry he finds mention of bishops of Jaffa, and he cites a passage of Mich. Ant. Baudrand (Tom. i., Geog., p. 527, col. 1), in which it is written that Jaffa, city of Palestina Prima, was formerly a bishopric under the jurisdiction of the Archbishop of Cæsarea. He uses the word *olim*, it is true, which is somewhat vague. The Latin bishops of Jaffa mentioned by Lequien are,—

1. Guy de Niman, died 1253.

2. A bishop whose name was unknown, who went in 1273 to the Council of Lyons, died 1274.

3. John de St. Martin, died Dec. 23, 1374.

I have nothing to say about the third bishop, because I have not with me the author referred to by Lequien to confirm his conclusions. I confine myself to the fact that since one lived in 1374, and the others in 1274, it is impossible that either the second or the third could be the bishop on this monument. Besides, Jaffa was surrendered in 1268. Guy de Niman remains, who died in 1253; the bishop of my slab died in 1255, so that there is chronological incompatibility. Nevertheless we must not forget that the *Estoire de Eracles Empereur*, from which Lequien borrows this fact, contains in matters of date very grave errors, and it is very easy in manuscripts to get such confusions as MCCLVIII. and MCCLIII.

But against this identification there is a much more serious objection, which at the same time puts in question the existence of a bishopric at Jaffa altogether. The passage of the *Estoire de Eracles* is as follows:—

"A MCCLIII amourent le rois Henry de Chipre et l'evesque de Jaffe Guy de Nimar."

Now a MS. variation gives the word *Baffe* for *Jaffe*, which would be Paphos (Baphe) in the island of Cyprus. M. G. Rey, in his edition of the *Familles d'Outre Mer*, has adopted this reading, and admits that Guy de Niman, whom he calls Mimars, and makes die in 1272 instead of 1273, was Bishop of Paphos.

In another passage of the same *Estoire* the word Baphe is read with a variation of Jaffa. "Li maréchaus . . . manda à Baphe pour les galères . . ."

The same error may have occurred with regard to the second Latin Bishop of Jaffa on Lequien's list, and in exactly the same way.

Here is the very existence of our Latin bishopric of Jaffa deduced from the names of these three bishops, compromised, especially if we remember the very distinct statement of Jacques de Vitry. Nevertheless, in the face of this negative argument, we must place an official document, a letter of Pope Alexander III. addressed to Peter, Prior of the Holy Sepulchre (Cartulaire, pp. 291, 292), whence it clearly results—

(1) That King Amaury and his homonym, the Patriarch of Jerusalem, had deprived the Prior of the Holy Sepulchre of the Church of

Jaffa, restoring it to its ancient dignity of a cathedral church, which it had lost through the violence and the occupation of the Heathen.

(2) That the Pope, in spite of the protestation of the Prior, believes it to be his apostolic duty to maintain the restoration, at the same time advising that compensation be made in exchange.

The bishopric of Jaffa was, then, actually accomplished. The cathedral church could only be the church of St. Peter. As to the compensation, it very likely consisted of the Church of St. Nicolas, conceded by King Amaury in 1168.

I confess that it seems difficult to reconcile this fact with the assertion of Jacques de Vitry, who could not have been ignorant of it. However this may be, the facts seem sufficient to permit us to believe in the existence of a Latin Bishop of Jaffa, and, in this case, in the discovery of the tomb and portrait of one of them.

In any case, the certain date 1258 is only six years before the arrival of Louis IX. at Jaffa, two years before the death of the king, and in the time of John d'Obelin, Count of Jaffa, ten years before the definitive taking of the city by Sultan Bibars.

If the slab really belongs to the Bishop of Jaffa, it may very well be supposed that it lay originally in the metropolitan church of St. Peter. This church, constructed on the traditional site of the recovery of Dorcas, or Tabitha, frequently figures in the Cartulary of the Holy Sepulchre.

Once (p. 71), in the act of donation of the patriarch Ebremar, there is mention of the cemetery which depended on it. "Ecclesiam Sancti Petri majorem, quæ et apud Joppenæ cum cimeterio ecclesiæ pertinenti."

One would say that the church, to judge by the expression "apud Joppen," was outside the city, like another church of Jaffa, that of St. Nicolas, which is said in the Act of Donation of Amaury to be situated without the walls and to the north (Cartulary of St. Stephen, p. 289).

These churches must not be confounded with that which St. Louis caused to be built by the Cordeliers during his stay at Jaffa, and which contained the altars, nor with that which the Knights Hospitallers possessed within the city—"in corpore civitatis."

Although some authors admit that the Church of St. Peter was south of Jaffa, we might perhaps suppose that the Wely of Sheikh Mourad from which the slab comes, and where probably stood the mosque built by the Emir Jemal in 1335, succeeded this Church of St. Peter, and that consequently our monument has never changed its place.

This substitution of a Mussulman for a Christian sanctuary is quite according to Oriental usage, and it would not be the least interesting thing about this precious fragment if it had enabled us indirectly to rediscover the exact spot on which this church stood, consecrating one of the most ancient souvenirs of Christianity. I may add that this conclusion is possible, but not necessary.

XIII.

JERUSALEM, *June* 25, 1870.

Here are a few details on our recent expedition to Jaffa, with which I am very well satisfied. It lasted seventeen days. Starting from Jerusalem on the 3rd, we returned on the 19th. The journey was intended to verify certain points which have engaged me for a long time. It enabled me, not to explore completely, but to visit a triangular region having Jerusalem, Jaffa, and Ascalon for the three angles. The list of our camps will indicate the line followed and the centres of research: Abu Gosh, Bir el Main, Lydda, Jaffa, Yebneh, Ashdod, El Moghâr, Artuf, and Jerusalem. Our harvest is of two kinds, epigraphic and topographic, without counting archæological observations properly so called, and an abundant crop of popular and rustic legends, which are to the Bible just as the popular tales, for example, in German are to the old German mythology.

I bring back twenty inscriptions, more than one per diem; all, with the exception of Nos. 12 and 20, are originals or squeezes.

1. Abu Gosh, Church of the Crusaders.—A mediæval *graffito*.
2. Kubab.—Mediæval inscription.
3. Amwâs (Emmaus).—Ancient funeral Greek inscription in a sepulchral cave.
4. Jaffa.—Monumental inscription in marble.
5. Do.—Sepulchral slab of a bishop or mitred abbot of the Crusades, with his portrait, and an inscription running all round: the personage is censed by an angel. The marble, which must have been of considerable dimensions, has an inscription behind it, which it has subsequently received, on the back, in Arabic inscription, date 736 A.H.
6. Do.—A Græco-Jewish funeral inscription of ΙΟΥΔΑ son of ΖΑΚΧΑΙ.
7. Do.—Do., incomplete, containing two feminine names with the word שלרם and the beginning of another Hebrew word.
8. Do.—Do.
9. Do.—Μνῆμα of Reuben, son of Jacob the Pentaphile; inscription preceded by the sign ☩, in which I am inclined to see a Christian symbol.
10. Do.—Do., ANNA son of ΕΙΛΑΣΙΟΣ.
11. Do.—Do., do.
12. Do.—Do., do.
13. Do.—Two large vase handles stamped with the name of the potter.
14. Mukhalid.—Greek sepulchral inscription.
15. Do.—Slab with Greek sepulchral inscription.
16. Lydda.—Large Greek Christian inscription engraved in a column of the mosque.
17. El Moghâr.—Greek Christian sepulchral inscription.

18. Khirbet er Saidé.—Greek Christian inscription. Monumental and votive—half of this already known (Guerin and Conder).

19. Ancient Gate of Yabneh.—Fragment of pottery, with word ΑΘΑΝΑΣΙΟC.

20. Mijmeh el'adé, near Tell el Jezer.—*Bilingual inscription in Greek and Hebrew marking the limit of Gezer.*

I have no time at present to give you details of these inscriptions, which are a rich contribution to the scanty epigraphy of Palestine, and in which we may see promise of further results in searching again.

Let me call your attention particularly to the group of ten new inscriptions coming from Jaffa, eight of which are Græco-Jewish.

The new group belongs to the series which I have been the first to open up in Jaffa, all coming from the place which I showed on my arrival here to be the cemetery of the ancient Joppa, from which I have carried away so many curious inscriptions. There is here a valuable mine to work, and I am convinced that *hundreds of inscriptions* could be found here which might throw singular light on the Jewish world at the commencement of our era. I studied the question carefully during a four days' halt at Jaffa, and I ended in determining exactly the site and limits of this cemetery, which extends from the adjacent mamelon to Suknet Abu Kebîr, a length of more than 600 metres.

But the most important inscription of all, the discovery of which is the grand result of this campaign, is that of Gezer. I have already touched upon it in a few words written hastily from Jaffa.

Here, then, are new details on the subject, pending the full study which will accompany the original. I send you a drawing of the inscription, made by M. Lecomte with his accustomed care and ability. This may serve as a basis for the observations of *savants*. I was the first to establish the identity of Tell el Jezer (the Abu Shusheh of the maps) with the royal Canaanite city of Gezer, hitherto vainly sought and generally placed at Yasûr. I communicated this discovery to different persons at Jerusalem, and during my last stay in France I had the honour of reading before the Academy of Inscriptions a memoir on the subject, which was only partially published.

I now remember that, when I had finished the reading, the president of the Academy asked me if I had found on the spot any inscription confirming this identification, made, so to speak, *à priori*, and having for *point de départ* a little-known passage in Medjr ed Din.

I was obliged to confess that I had not in support of my theory any proof of this kind, and that I could only quote, outside my narrow base, the classical and critical arguments which from the time of Robinson have served to establish the principal Biblical identifications.

Very well;—this unhoped-for proof, improbable even in Palestine, where not a single corresponding example has been met with, I have had the great fortune to find.

At a very short distance from Tell el Jezer, on the east side, the text in question exists, engraved on a slab of rock nearly horizontal, and very nearly two metres in length.

It is bilingual: it begins with the Greek word ΑΛΚΙΟ... in characters of classical epoch, immediately followed by the Hebrew letters of ancient square form, of which nothing, I think, can be made except תחמ+ גזר.

In the second word we have *the very name of Gezer just as it is written in the Bible.*

As to the first, I can see nothing else than the defective form of תחומ. The omission of the *vau* is perfectly admissible considering the remote period at which the inscription was written.

As for the signification of the word, it is clearly that of *limit.* The word is not Biblical, but it is frequently employed in the Talmud to determine the distance that must not be exceeded on the Sabbath day—תחום השבת.

The Hebrew inscription must, then, be translated as *limit of Gezer.*

Is this the hieratic, or simply the civil limit?

Two facts appear to argue in favour of the first conjecture:—

1. The special acceptation of the word תחומ in the Talmudic language.

2. The quality of the city Gezer as belonging to the group of Levitical cities, so that the observation of the Sabbatical limits would be more rigorously observed than elsewhere.

I have no time to enter into the still obscure question of the length of a Sabbath day's journey. I reserve that for the special publication of this precious text, which will perhaps actually solve it, if it means really the Sabbatical limit and not a non-religious boundary.

I need not recall the well-known passage, Numbers xxxv. 2—34,* where the limits of the Levitical cities and these suburbs are so exactly ordered. It may very well be that in the same radius round Tell el Gezer we may find at the other cardinal points similar inscriptions. I mean to look for them.

One particularity on which I must insist, as it may enlighten us on the real destination of this singular and unique inscription, is that of its position. The letters are placed so as to be read, not by any one who came from Gezer and intended to cross the hieratic boundary, but by one who coming from without sought to pass within. This makes me inclined to believe that we have not simply a warning for the Sabbatic rest, but a line of demarcation much more important and necessary.

Let me recall, *en passant*, the fact that Gezer was a frontier town of Ephraim, though I would not pretend to see a tribe-limit in this city boundary.

Gezer was a Levitical city (Joshua xxi. 21). "They gave [the

* Ver. 5. "Ye shall measure from without the city on the east side two thousand cubits, and on the south side two thousand cubits, and on the west side two thousand cubits, and on the north side two thousand cubits; and the city shall be in the midst," &c.

Levites which remained of the children of Kohath] Shechem with her suburbs in Mount Ephraim, to be a city of refuge, for the slayer; and Gezer with her suburbs."

It is also possible that the Sabbatical limit was the same as the Levitical.

However that may be, our inscription fixes one point of some perimeter about Gezer. The operations of measurement which we shall proceed to make will perhaps show us whether this radius is one, two, or three thousand cubits, or whether it is of the length indicated by several authors as that of the ὁδὸς σαββάτου.

What is the date of the inscription? Palæographically and historically it seems that we may boldly assign it a date previous to Titus as a minimum limit.

I should not even hesitate to put it at the Maccabean period, during which Gezer plays so important a part, and becomes a political and military centre. The Greek and Hebrew characters may very well belong to the first century before Christ. The date, I believe, may thus vary between the two extreme points.

The name of Ἄλκιος does not help us in fixing it. Is it the name of a priest, or of a governor of Gezer? It indicates Hellenized habits which would be repulsive to the first Asmonæans, and which tend to bring our inscription down to Herodian times, in which Hellenism was flourishing.

As to the truncated form Αλκιο, that may be explained by the fact of the two texts, Hebrew and Greek, being placed end to end on the same line; and commencing one at the right and the other at the left, the engraver carving his Greek word after the other, could not find room for the whole word, his Ο abutting on the ז of the word *Gezer*. Besides, a broken place in the rock between the Λ and the Κ took up a portion of the space at his disposal.

I think that the limit of the protecting boundary was not marked only by this inscription on the level of the ground, and difficult to see, but, besides, by some salient sign, some landmark, or *cippus pomœrius*, which has disappeared, the traces of which I intend to look for. The existence of indicative marks seems pointed out clearly in Numbers xxxv. 4—26.

To sum up, this discovery has for its chief results—

1. The finding of a Hebræo-Greek text of ancient date, very important in Jewish epigraphy.

2. The positive confirmation that Gezer is really at Tell el Jezer, as I had shown from critical considerations.

This startling confirmation of an identification obtained solely by an inductive method has its weight in other Biblical identifications established on the same principles, gives them legitimacy, so to speak, and confirms the degree of credibility which belongs to them.

3. The probable solution of the much disputed controversy of the Sabbath day's journey and the hieratic limits of Levitical cities.

4. A well-grounded hope of finding in the environs of Gezer and the other Levitical cities analogous inscriptions.

I propose to return to Gezer to carry off the stone, and to study the other questions which belong to this subject; above all to measure the distance of the inscription from the city.

Our topographic harvest is also abundant: we have collected more than sixty names which are not found in any of the maps hitherto published. Very few, however, have escaped Conder. Among them are certain discoveries and identifications of great importance:—

(1.) A *Jeba* south of Abu Gosh, which appears to be that where the inhabitants of Kirjath Jearim deposited the ark.

(2.) *Bezka* = El Yezek (El Yezek for El Bezek of Medjr ed Din) which plays an important part in the battles of the Crusaders with Saladin.

(3.) *Oyûn* Kara = Har-Rakkon and Mejarkon of the tribe of Dan (Joshua xix. 46).

4. Zernûka = probably by interversion, Sikron of the tribe of Juda (Joshua xv. 11).

5. *Dajûn* = the real *Kefr Dagon* of the Onomasticon, between Lydda and Yabneh, instead of the *Beit Dejen* hitherto wrongly admitted.

6. *Deir Eban*, close to *Ain Shemes* = the great *Eben* on which the ark was placed on arriving from Ekron (1 Sam. vi. 14).

7. The country of Dalila and the Kefr Sorek of the Onomasticon, a few minutes west of Rafat and near Sara, whence comes the confirmation of the Wady Sarar as the *valley of Sorek*.

8. *Ain Gannim* = (probably) *Umm* Jina, &c.

Different observations and legends.

Study of the ethnical names of localities which present the most interesting forms from a linguistic and topographic point of view, hitherto entirely neglected. I have collected a large number, and I have generally observed that the ethnic form was more archaic than the name of the locality. Here is the germ of a law which has not yet been applied, and which reserves for us most unexpected discoveries for Biblical identifications.

I have already pointed out the very striking example presented in the form Midyeh (Modin). A man of Midyeh is called Mîdnāwy, in plural, Médāw'nè. The ancient word, mutilated in the name of the village, reappears entirely in the ethnical name.

Legend of Jalûd (Goliath) at Esdûd, in the very country; tradition of a *neby* flying to Hamāma, near Ascalon; legend of Sampson divided among several personages in the neighbourhood of Ain Shemeh, whence it would seem that the tomb of the Danite hero is at Wely Abû'l Meizar, at Ain Shemesh; (2) that Beit el Jemāl is Eshtaol (Judges xiii. 25, &c.) The considerable alterations in these confused traditions throughout a region exclusively rustic and Mussulman are a guarantee that they have a certain antiquity.

Archæolo

Plans of three unpublished churches: at Beit Nûba (mediæval); at Lydda (Greek, contiguous to the Latin church); at Yebneh (mediæval, with a portal of the purest Western style); an abundant crop of masons'

marks; in the mosque of Ramleh a magnificent lintel ornamented with animals and Christian symbols; at Lydda a bridge constructed by Bibars out of the ruins of the Crusaders' Cathedral; application and striking confirmation of the law as to mediæval dressing at the church of Abu Gosh; fragment of a magnificent marble statue coming from Cæsarea; a beautiful marble head from Khalasa, &c., and a quantity of details more or less important, forming a mass of designs and sketches too long to enumerate.

July 8, 1874.

I told you in my last letter that I was most anxious to explore the neighbourhood of Gezer, persuaded that my inscription could not be the only one, and that we might find a series staking out the sacred limits.

I have discovered a second, which is the exact reproduction and the most startling confirmation of the former. It is placed due north-west of the first, at a distance of 150 metres (169·6 yards). It results from this that *the sacred boundary was a square, having its four angles at the four cardinal points.*

July 12, 1874.

I think I did not tell you in my last that we found between the first and the second inscriptions certain other characters, apparently Hebrew, cut in the rock. Lecomte remarked them first. I hesitate about the first and second; the third seems a *teth*, and the fourth an *aleph*.